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ART. I.—*An Essay on Bilious Fever.* By LUNSFORD P. YANDELL, M. D.

Sanos sospitare agrosque sanare.

Bilious Fever is a most prevalent disease in the valley of the Mississippi. It is, also, a most fatal disease. It carries off the infant at the breast, the old man, the tender youth, the young man, and the man in the prime and vigor of useful life. It is the *Great Destroyer* in all our south-western States. The best minds of the medical profession have been devoted to its study, and to the means of subduing it, in both hemispheres, and on both sides of the line; but yet it remains unconquered. We have ascertained, pretty accurately, the circumstances under which it takes its rise, and are generally agreed upon the name of its imaginary cause; great im-

provements have, also, been made in the mode of treating it, and higher success crowns the efforts of modern practitioners; but, despite all, it continues often to prove fatal, and in one of its forms, is still the terror of south-western physicians.

Aetiology.—Nothing in regard to Bilious Fever is better settled, than that the poison which generates it is developed by the drying up of ponds and water courses, in a fertile region of country, under an ardent summer and autumnal sun. Wherever moisture is present to co-operate with organic matter in warm weather, there is decomposition going on, and there is found bilious disorder—especially by the bottoms of streams or ponds recently exposed to the air and the sun, does the poison of fevers seem to be eliminated. The draining of a mill-pond, if done late in summer, or in the fall, hardly ever fails to spread miasmatic diseases far and wide among the inhabitants of the neighborhood. The following is an instance, in point, which has never been published:—The proprietor of a mill on a small stream in Ohio was in the habit, every year in early summer, when the waters became low, of draining the pond, by raising the flood-gate. No injury to the health of his neighbors resulted, so long as the draining process was confined to early summer: the inhabitants of a village bordering upon the stream were not particularly subject to fevers. But during a wet summer, in 1839, as the stream continued full, he was induced to postpone draining the pond until late in August. The consequence was, that a most formidable fever broke out in the village, and prevailed to an extent before unknown in it. The owner of the mill was compelled to draw off the water, next spring, the pond having been condemned as a public nuisance, and the summer which followed was one of health in all the surrounding neighborhood.

The droughts of our summers, by exhausting the streams and exposing the deposits of organic matter on their margins and in their beds, are known to all practising physicians

to be the almost certain harbingers of fever in some one of its varied forms. And in reviewing the record that we have kept of our cases of fever, we are able to trace nearly every one of them to the borders of some pond or stagnant stream. Year after year, we find that our autumnal business has been almost wholly confined to the vallies of the neighboring creeks and rivers.

In the neighborhood of Louisville, and particularly to the South, lies an extended district of flat country dotted all over with ponds; it is called the "Pond Settlement." In the spring, and during the early summer, this region is salubrious, for the ponds, as yet, are full of water. But when they begin to be exhausted in July, and their beds send up exhalations under the solstitial heats, fever, in every shape, rarely ever fails to attend. If this district ever escapes this unwelcome visitant, it is in a rainy season when the ponds are kept full. In an early day, and, in fact, until within a late period, this city was regarded as one of the most unhealthy places in the valley of the Ohio; but such has been the beneficial effects of draining and tillage, that it would now compare, in the healthfulness of its citizens, with any other river town in the West. This is particularly true of the central and densely settled parts of the city. The suburbs continue to be visited by fever. A line might be traced around the city marking the limits of the healthy atmosphere, and the point at which malaria begins to assert its authority. Within certain limits the air is pure, but beyond these, on the three sides of the town exposed to the miasms of the ponds, it is still unsafe to reside. The explanation of these facts is easy. The inhabitants in the interior are remote from the source of the poison, and are, moreover, protected by the intervening buildings; whilst those who dwell on the frontier inhale the poison emitted by the ponds that have not yet been drained. As the draining progresses the boundaries of health are found to be sensibly and rapidly extended, and the region upon which the pestilential vapors have so long rested, like a dismal incubus, promises to become, in a few years, under a ju-

dicious system of ditching and culture, one of salubrity and great value. The environs of Louisville only require to be rid of the stagnant water which remains, to be rendered as healthy as Main street, which was as often visited by malignant fevers as they now are, while large ponds exposed their filthy waters to the sun, in quarters now covered by pavements and houses.

It is interesting and instuctive to remark, how coincident are all the circumstances attending the rise and propagation of bilious fever, in countries so remote as Italy and the Valley of the Mississippi. In following the historian of the Campagna di Roma, one cannot fail to be struck with the exact identity of the causes which have desolated that remarkable region, and are traced everywhere in this country as exciting malarious diseases. The Campania, we learn from Roman history, was once a densely populated and beautiful country—the site of the thirty cities of Latium with its dependant villages. It is now nearly a wilderness—a long series of wars with their Roman neighbors laid waste its fields, depopulated its villages, and exhausted the resources and energies of the remnant of its people. As a consequence, the mountain streams, which industry had confined to narrow channels spread unchecked over the low valleys, and formed anew the lakes and pools which had long been dried up. The pestilence followed quickly on the footsteps of war, to complete the work of desolation. A poisonous atmosphere was gathered over the Campagna, and spread its baleful influence far around. Town and village gradually disappeared, until the sites of many of them could scarcely be distinguished. The progress of depopulation was at first so slow as to be almost imperceptible. "The outskirts were thinned by fevers which, returning at the return of mid-summer or of autumn, gradually compelled the inhabitants to retire towards the centre of population, or remove at once to more elevated and salubrious situations. By degrees the range of the disease extended, drawing a narrower and still narrower circle around

the fated spot. Years might pass away before its hold was made secure, but its violence was redoubled as it approached the centre, until one or two seasons were sufficient to complete the work of destruction."*

But the Campagna thus desolated by malaria revived, when Rome, carrying her conquests beyond the confines of Italy, became the centre of a great empire, and wealth, with all its attendants, flowed in upon her. People revisited its deserted fields, and rebuilt the villages. Its streams were guided once more into their proper channels, and the stagnant pools ceased to send up their noisome effluvia. Luxuriant harvests covered the beds of exhausted marshes, and the villas of some of the first citizens of Rome crowned many of the heights of the region where the pestilence but a few years before had held undisputed sway. And in this prosperous state the Campania continued, so long as Rome remained the seat of empire. But with the removal of the Popes to Avignon commenced a new period of decay. The villas were abandoned to the charge of indolent agents and slaves, and fell gradually into ruins. Many of the villages were deserted, and smitten by the reigning spirit of luxury and effeminacy, and galled by an iron despotism, all lingered on in a doubtful and precarious existence, until the inroad of the barbarians completed the ruin of the country. The population of Rome itself dwindling down to seventeen thousand souls, the Campagna was deserted, except by a few miserable beings who dragged out an existence of thirty or forty years, rarely ever reaching sixty.

And thus, with the neglect of its culture, and the accumulation of water upon its surface, the Agro Romano sunk again to the lowest point of desolotion. The facts are deeply interesting to the medical philosopher. It is seldom, indeed, that we are ever able to trace more satisfactorily the connexion between the phenomena of disease and their causes. And it is not the least interesting fact in the history of this country, that, since the removal of the Papal Court to Rome again,

*New-York Review.

there has been a gradual improvement in the salubrity of the Campania—that event being followed by the return of laborers to its fields, and the draining of the Pontine marshes by Pius the 6th. That immortal enterprise, the writer from whom I have quoted remarks, had it been followed up by the draining of other portions of the Agro Romano, might long since have reclaimed it. Enough was done to show where the evil lay, and to indicate the mode of removing it.

The malaria, it is well understood, is confined to the lowlands of the Campania. High situations are exempt from it: and it would be easy, it is stated by writers who have visited it, to form a scale presenting, at different points of elevation, the gradation of noxious, bad, suspicious, passable, good, and, finally, excellent air. Monte Mario, at the gates of Rome, is healthy throughout the year. The village of St. Oreste, which stands midway on the ascent of Mount Soracte, and yet is desolated by autumnal fevers, seems to be an exception. "Here, however, the peculiar structure of the mountain itself affords an explanation of the variation. It is a solid mass of nearly naked rock, with but here and there a scanty growth of shrubs and low wood to shelter it from the exhalations of the marshes below."

The unhealthy season at Rome commences not until towards the middle of July. The shepherds remain with their flocks through nearly the whole month of June, taking the remainder of this interim of good air to gain the mountains by slow marches. By this time the smaller streams and shallow pools are dried up, and the two rivers, the Anio and the Tiber also load the air with noxious exhalations. The degree of unhealthfulness of any particular season depends in a great measure upon the autumnal rains. When these are delayed or scanty, the fever obtains a stronger hold and spreads with greater rapidity. But an early and great fall of water produces an immediate change in the atmosphere, not only cooling but purifying it, and by renewing the half-drained streams covers up the reeking sources of malaria.*

*For these details concerning the Agro Romano, I am chiefly indebted to a spirited writer in the New York Review.

I fear the reader will deem that I have devoted too much space to the history and physiognomy of a region so remote from the scene of his professional labors. All that I can say is, that the interest of the subject has appeared to me to justify the length of the details. The Campagna di Rome is not only famous for the malignity of its fevers, but as having been longer the seat of febrile diseases than any locality of which we have any authentic history. Long before the time of Cicero and Pompey, it had been desolated by the poison which constitutes the scourge of the magnificent valley of the West. And, after the lapse of more than twenty centuries, the same malaria continues to hover over its plains, and to walk in darkness through its villages and cities. The Campania has twice been rendered salubrious by a wise system of draining and tillage; and twice has it been yielded back again to the dominion of the pestilence. Health has followed the footsteps of industry, and, with the return of barbarism or indolence, the waters have spread over the plains unchecked, and fevers have returned with all their pristine malignity.

To all this we have many analogies at home. I have cited the case of the city of Louisville, where draining and cultivation have, in a few years, introduced the most favorable changes. The clearing away of the forests, with a consequent exposure of a soil, rich in the remains of organic matter, to an ardent sun, on the other hand, has been a prolific source of febrile disease in all the south-western states; for the barrier which trees oppose to the spread of malaria has been removed from the water courses, and the noxious exhalations from water, as well as from the virgin soil turned up by the plough, have contributed to taint the air. Along all our streams disease is known to have become much more prevalent, since the shrubs and trees fringing their borders were cleared away. I remember a beautiful country seat, in one of the Western states, which lies near a small river that becomes stagnant in summer and autumn. In early times, and while the river was yet surrounded by a dense forest, the locality was one of the most healthy in all that neighborhood. A case of fever, for

some years after a large family settled upon it, was of rare occurrence. But as the fields were extended and the forests removed, the visits of this malady became more frequent. The trees which once stood between the dwelling and the river have now been hewn away, and the winds, laden with the seeds of disease, meet with no obstruction. The place is subject to autumnal fevers of a malignant type. This is but one of innumerable instances that might be cited; but so familiar must the observation be to all practitioners, that it would be superfluous to multiply examples. The river to which I have just referred is quite noted for its insalubrity, and it is worthy of remark, that it is also the site of a great many mills. From the point where the first mill is erected, to the mouth of the river, hardly a healthy situation in the neighborhood of it can be found.

Another fact, connected with the propagation of miasms, of the highest importance, is their dependence for transmission upon the winds. A house built upon the eastern, or the north-eastern bank of a river or pond, receives the prevailing winds after they have swept these sources of malaria, and will be more unhealthy than one which stands in a southern or westerly direction from such collections of water. Houses so built as to expose their open doors and windows to the breezes coming over stagnant water or marshes, are more subject to fevers than those in the same village, on the same street, which oppose their rear, with closed entrances, to the wind. This is the statement of historians with regard to Rome, and it is the experience of all towns and villages where febrile diseases have been generated by collections of stagnant water. In Rome, we are assured, that the interposition of so slight a barrier to the poison, as a piece of guaze, spread over the window-openings at night, will protect the sleeping inmates; whilst those who sleep with their windows open, and without such defence, in the direction of the marshes, are almost sure to be attacked by fever. In all parts of the Western country, situations to the south of streams, especially if elevated, are comparatively healthy; those which lie as far from

the water, north, being unhealthy. Situations east, and north-east, are subject to fevers; and the explanation is found in the fact, that the south, and south-west winds are prevalent in summer and autumn, with an interchange, occasionally, of a breeze from the north-west, later in the season.

If upon this branch of my subject I seem to have dwelt at undue length, my apology is, that it involves principles of the deepest importance to the community. "*Sanos sospitare, ægrosque sanare*," I have adopted as my motto, and I hold the first to be, not less than the last, the duty of the physician. The public health is a matter of such vast concern, that one may well be pardoned for a little prolixity in the detail of facts which have an intimate bearing upon it. And, if I am not greatly mistaken, I have indicated, in the history I have given of the rise and propagation of malaria, the mode by which the range of the diseases it produces may be greatly limited. Let the hygienic precepts that they suggest be properly inculcated upon the people, and they will be more industrious in removing the sources of miasmata. Let them be taught that fever is the sure penalty annexed to a residence on certain banks of water-courses, and that it may, with great certainty, be avoided by selecting a site at a distance from them, and it is not probable that they will persevere in violating so obvious and salutary a principle. It is not saying too much to assert, that, by the observance of the laws which experience and observation have established on this subject—by planting and draining, by cultivating the soil, and by the selecting of proper sites for dwellings—half the fevers might be prevented which now afflict the country, and annually rob it of many of its best citizens. I speak with the greater earnestness in reference to these things, because, while the truth of all that I have said is generally known and admitted by medical men, they do not appear to me to have exerted themselves as they might have done, to reform the people on these points of hygiene. To my mind, it involves truths of the deepest practical import, and it is only by impressing them upon individuals and the public authorities that we can hope for reform, and the improvement of the general health.

I am aware that it is contended by some, not without plausibility, that there is *no specific cause* of fever; but that it is excited by vicissitudes of atmospherical temperature, and by the chilling effects of the vapors condensed into fog by the coolness of the evening. But the fact, that fever has a specific type—as distinct and peculiar as small pox or measles—that houses, in particular situations near water, are healthy, while others, not nearer, but to the leeward, are unhealthy, both being alike enveloped in the fogs arising from the water—that in places once famed for their insalubrity health has been brought about by draining, while the air continues to be surcharged with aqueous vapor exhaled from the neighboring streams, as is strikingly true of a city to which I have already alluded*—and that the draining of a mill-pond, by which the quantity of atmospherical moisture in its vicinity is diminished, taints the summer and autumnal air in all the surrounding region—all point to a specific cause. And this cause we continue to refer to marshes, or the exhalation of moisture from a bed of putrifying organic matter; but we are compelled to admit, at the same time, that this poison has never been detected by any chemical test as a constituent in the atmosphere of infected places. Broschi directed a long series of cautious experiments to the solution of the problem; and in the air of one of the most pestilential regions in the Campagna di Roma he thought, by his first analysis, he had detected the miasmatic particles. On renewing the experiments, however, and collecting the vapor with new precautions, he was unable to discover the slightest trace of either vegetable or animal matter. Moschati examined the air of some insalubrious rice-fields in Tuscany, from which it appeared that it contained albuminous flocculi, but the nature of which he could not determine.† Prout, in his Bridgewater Treatise, mentions that, during the prevalence of cholera, in London, he found the atmosphere to be increased in weight, and stead-

*Louisville.

†Records of General Science, quoted by the American Jour. of Med. Sci. for Nov. 1836.

ily so, and the explanation of the fact he supposes to be, that some gaseous body was diffused through the air of the city, considerably heavier than the air it displaced; but the character, and even the existence, of this gas, was a matter of conjecture. M. Rigand de l'Isle made a series of experiments in the marshes of Languedoc with a view of detecting the poison of fever. He condensed the dew upon glass, and, like Moschati, found flocculi possessing the properties of animal matter, but without being able to prove that he discovered the miasm.* A more laborious series of experiments were instituted by Boussingault, with the same view, and although he detected organic matter in the vapor over the marshes, he was not more successful than the preceding chemists in insulating the peculiar poison. I will only add, that such has been the result of other investigations, instituted with a view to the discovery of this most prevalent but hidden poison, which, as we have seen, is as rife and as potent now, in the marshes around Rome, as it was in the time of Tacitus, and which all that has hitherto been done by the hand of industry in our south-western valley has not materially abated—I ought, perhaps, rather to say, that the amount of cultivation in the West has only fully developed the poison, which a higher cultivation may subdue; and with this remark, I dismiss the first branch of my subject.

PATHOLOGY OF FEVER.

This is one of the vexed questions of the day. It is not my intention to present a history of all the theories of fever which have been proposed in the various ages of Medicine, much less to attempt an estimate of their several merits. This I should deem a most unprofitable consumption of time; and I shall therefore confine my remarks, on this head, to the two most prominent of the modern theories, the anatomical theory of Broussais, Louis, Bouillaud, Bretonneau, &c., and the

*Ib. loc. citat.

congestive theory of Armstrong, Johnson, and others, presenting afterwards, a view of the phenomena of fever as they appear to be successively developed. I shall speak first of the congestive theory.

According to Armstrong, the essential or proximate cause of fever consists in a congestion of the internal veins of the body, and particularly those of the portal circle. It was a belief expressed in his earlier writings, that, in the pathology of fever, the right side of the heart would come to be the only structure worth studying. The *vena cava*, in this view of the matter, is the seat of the primary morbid action. The heart is enfeebled by the malarious poison, in consequence of the deteriorated character of the blood, which has become black by the action of the miasm, and fails to supply the heart with its natural stimulus. Hence it accumulates in the large veins for the want of power in the heart to propel it forward. Congestion, in the view of those who adopt the hypothesis, is the great evil—the *causa sine qua non*—which being removed, the fever ceases.

To this theory, whatever may be the arguments in its favor, there is an objection that I cannot help regarding as fatal to it—which is, that the results of *post mortem* examinations do not reveal such a condition of the venous cavity. In a large majority of cases subjected to the test of the anatomist's knife, the liver has not been found in a state of congestion, or as exhibiting any morbid lesion. True, in nearly all fatal cases of fever, traces of congestion or of inflammation are to be seen in some of the abdominal viscera; and often, also, in the organs of the chest and of the head. But, so far as I have had opportunity to compare the histories of such cases, as given by the writers of all the conflicting schools, I have not been able to discover, that deep congestion of the vena cava, or of the portal circle, is by any means a uniform appearance. On this point, the testimony of Dr. Bailly is very full and striking.* This eminent physician visited Rome in 1820, 1821,

*Traitie Anatomico—Pathologique des Feivres Intermittentes, Simples et Pernicieuses. Paris, 1825.

and 1822, for the express purpose of studying the malignant fevers of that country. He has recorded the histories of thirty-six fatal cases of what he terms *malignant intermittents*, but which, in this country, would be called *congestive fever*. They exhibited, in their progress, every mark of deep congestion. Many of them terminated in twenty-four hours. The bodies of the patients were of an icy coldness. Some of the victims were comatose almost from the beginning, and others were foolish, like men intoxicated. In some, there was complete prostration of the muscular powers; but others were able to walk about their rooms only a few hours before death. In all, great coldness of the surface was present—a general shrinking of the features and extremities—the pulse was not to be felt at the wrist, and, now and then, not even in the carotids:—in all of which we trace the strongest resemblance to the character of our own congestive fever.

Of the thirty-six fatal cases recorded by Dr. Bailly,* the autopsy discovered arachnitis in 25; in 19, gastro-enteritis; in 18, splenitis; in 3, diffluent spleen, and in 3, ruptured spleen; in 13, cephalitis; in 7, gastritis; in 7, enteritis; in 5, *alterations of the liver*, of which, one was by inflammation, two by congestion, and two by putrilaginous softening. Pneumonitis, pericarditis, peritonitis, and inflammation in other parts were detected in many cases. From these statistics we see, that the tissue which suffered most frequently was the arachnoid membrane. If, however, we add the seven cases of gastritis to the nineteen of gastro-enteritis, we have twenty-six cases in which the stomach suffered. In every instance, inflammation in some part of the contents of the abdomen was discovered. In thirty out of the thirty-six cases, there was inflammation of the brain, or of its arachnoid membrane, conjoined with inflammation in some part of the digestive canal. The liver was found in abnormal condition in but five of the whole number, and congested in but two.

I will not undertake to affirm, that the experience of all

*Quoted by Dr. John Bell. Lectures. Phila. 1840.

writers on this subject is equally unfavorable to the congestive theory. Dr. Davis, for example, says, "dissection has shown that the organs primarily affected are the liver and the spleen. In subjects who have expired of this disease, even in the early stage, these viscera have always appeared to be materially altered in their structure."* Cleghorn says, "I have examined the bodies of nearly a hundred persons who perished in these fevers, and constantly found one or other of the adipose parts in the lower belly (the cacol, mesentery, colon, &c.) of a dark black complexion, or totally corrupted; the *vesica fellea* full and turgid, and the stomach and intestines overflowing with bilious matter; the spleen larger and sometimes weighing four or five pounds, and so excessively soft and rotten, that it had more the appearance of coagulated blood wrapt up in a membrane, than of any organical part."† Still, I cannot refrain from remarking, that the statistics furnished by Bailly appear to my mind to amount, as regards that theory, to an *experimentum crucis*. If congestion be the *foris et origo* of fever, how could it have been absent in so many of these cases? And if present, to hurry on the cases to the catastrophe, how are we to account for the disappearance of it, so soon after death? If the liver bear so much of the *onus* of febrile disorder, as is maintained by the advocates of the congestive doctrine, why do we find it, at the end of the worst cases, so often in a sound condition? Is not the inference irresistible, that, being sound, it is guiltless of the mischief, either as the primary cause, or as involved secondarily, and contributing to maintain the morbid action?

In Dr. Bailly's cases, the spleen, of all the organs, gave the most frequent proofs of congestion; for in twenty-three cases out of the thirty-six, it was in this state, or in a state of congestion conjoined with inflammation. The congestion, in a few instances, had progressed to the point of breaking up the tissues of that organ. Dr. Shapter, in the Library of Practical Medicine, also testifies to the frequency of lesions of

*On the Walcheren Fever.
†Diseases of Minorca.

the spleen in fatal cases of intermittent fever. According to all the authorities, indeed, this organ appears to be singularly often affected. But it were easy to show, I think, that this condition of the spleen is a consequence, and not the cause, of the febrile commotion. Who, for example, has not seen cases of enlarged spleen without fever? This viscus occasionally becomes so much increased in size, in consequence of repeated attacks of ague, as almost to fill up the abdominal cavity. And yet it is well known, that with all this congestion of the organ, fever is by no means the invariable attendant. That it sometimes is, will not be denied; and that such a condition of the spleen adds to the difficulty of curing intermittents, all physicians have experienced. But it is as well known, that the chills may be checked, and temporarily, if not permanently, cured, while the spleen maintains its unnatural size. The two parts of the argument then, are, that the spleen may be enlarged without exciting fever; and that where they are conjoined, the fever may be relieved without removing the congestion of the spleen. And a distinct argument is, that the spleen is not invariably found in a diseased state at the close of congestive fevers. Why it should be often so is easily explained. During the chill, which precedes all fevers, the blood is accumulated in great quantities in the spleen by the very nature of its circulation. This organ is of a peculiarly loose, spongy, and vascular texture. In intermittent fever the febrile reaction is very great, and the engorgement of the spleen returning with every paroxysm, in the end, its structure can hardly fail to become altered. The morbid state thus induced in it, as an altered condition of any other organ, will react upon the irritated nervous system, and become, secondarily, the means of keeping up the morbid commotion. In like manner, congestion of the liver becomes a source of mischief, as must local lesions in whatever important organ existing.

According to this view of the subject, it is unphilosophical to regard hepatic congestion as the cause of fever, and, consequently, to address all our remedies to the liver.

I shall next inquire whether, by the same course of reasoning, gastro-enteritis, arachnitis, &c. are not excluded as the essential cause of fever. Some of these lesions attend all fatal cases of the disease, according to the experience of every pathologist, and probably contribute largely to the fatal termination. But do they not very often occur independently of fever, and run their course without developing that disease? Is it not a matter of daily observation, that gastritis, and inflammation of the intestines may exist, and yet every pathognomonic symptom of bilious fever be absent? In dysentery, cholera, gastritis, diarrhœa, &c. the symptoms are specific, but not those of miasmatic fevers. Arsenic or the other irritating poisons excite gastro-enteritis; but in such cases there are not the regular, well-marked paroxysms of fever. In dyspepsia the stomach is often in a state of sub-acute inflammation; yet this inflammation is far from developing an intermittent or remittent fever. Fever and such local lesions coexist; but these points of irritation, however they may aggravate and perpetuate the fever, cannot be regarded as the cause of it.

The following facts are equally unfavorable to the hypothesis under consideration: the irritation produced by introducing a catheter will sometimes excite a chill, followed by fever, which may be repeated for several days: I have seen a severe paroxysm of fever developed by keeping a tent in an irritable ulcer on the side for an hour, which could not have been distinguished from a regular intermittent. The shock of a cold bath has been followed by a chill and fever, which recurred at the same hour the next day. Bad cases of stricture and retention of urine are pretty uniformly attended by the phenomena of intermittents, so that we have a class of what are called urinary fevers. Richter cites a case in which the irritation of worms brought on the disease. The suppression of the catamenia and of other habitual discharges has been known to excite it. Shapter mentions the case of a girl nine years of age, in which a true tertain was clearly referrible to fright. In all these cases the fever is, indisputably,

quite independent of gastric or intestinal irritation, and the facts show that an intermittent may arise and persist without such a cause.

We are assured, that "every system and every organ in the body may be, and frequently is, diseased during the course of fever;" and it is even probable that in a great majority of cases, "death is the result of one or many local inflammations."* But there is no constancy, no uniformity either in the seat or extent of the local disease. In one, we find the intestinal canal healthy; in another, the same parts present extensive disorganizations; and yet the symptoms in both, during life, were the same. Or we find, in other cases, the lungs inflamed, arachnitis, or rupture of the spleen; and in others, find all these organs in a healthy state. But if, as held by the advocates of the gastric theory, fever were a mere exponent of the inflammatory condition of the stomach and intestinal canal, we should as uniformly find such local lesions after the death of febrile patients, as we find disorganization of the lungs in death from pulmonitis; which, we have seen, is far from being the fact. Nor is this all, for we may have several patients presenting different symptoms, and yet on examination, *post mortem*, find the same morbid changes in all. In one, the phenomena of typhus may be present; in another, this condition may be slightly marked; in a third, it may be absent; and yet, in every one, we shall trace the same local lesion. Do we find, here, any of that constancy which subsists between cause and effect? We have similar symptoms excited by diverse lesions; and various phenomena excited by similar organic changes. To say that in such cases the fever is symptomatic of the local lesion, would be absurd. "A child," says Stokes, "is exposed to the contagion of small pox; for sometime nothing particular is observed; he then gets ill and feverish, and this is followed by an eruption of variolous pustules. Here we have a local disease consequent upon a circumstance affecting the whole system, and

*Stokes' Lectures, p. 409.

in this, as in local ulcerations attendant upon typhus, the local lesion is secondary. We might as well argue that the pustules were the cause of the symptoms in one case, as to say that the ulceration of the intestines was the cause of the other."*

Finally; the well known effect of bark in intermittent fever seems to me fatal to the doctrine of the physiological school. If we possess in any remedy a specific for any disorder, it is this article in recent cases of ague and fever. And yet bark is a tonic, a stimulant, and in genuine gastritis would be as mischievous, as in intermittent fever it is known to be salutary. How is it to be explained, that recent and acute gastritis is subdued by a remedy proved to be pernicious in other phlegmasiæ! I confess that the analogies cited by Broussais and his followers do not strike me as true. Chronic opthalmia, diarrhœa, and blennorrhagia, caused by stimulants, bear little resemblance to the inflammation that occurs during the progress of fever in the mucous membrane of the stomach.

The true account of the phenomena appears then, to be, that the repetition and excessive amount of the local congestions occurring in the cold stage of fevers, give rise to a hyperæmic condition of the affected organs. This condition, frequently excited, leads, at last, to local inflammations. New local inflammations are set up in various organs, and these, which, in the beginning, were only the effect of the disease, become, by reacting on the system, the cause of its continuance.† And hence, it appears, that in almost all cases of fever, there is a combination of the essential and the sympathetic fevers—the essential, the result of the first cause—the impress of malaria upon the nervous system—and the sympathetic, the result of the local lesions which arise during its course. So that, in the treatment of this disease, we are to bear in mind, not only the phenomena which seem to grow out of a general disturbance of the nervous system, but those

*Stokes. Op. cit. p. 414.

†Ib.

local inflammations also, which, springing up in its progress, serve to perpetuate the fever. We thus obviate the danger of death from the violence of the local affections, as also, the disturbance resulting from sympathetic irritation; whilst we reduce the disease to a state of the greatest simplicity, in whice quinine or bark may be given to arrest it. Upon the fact, that, these local lesions being removed, the accompanying fever often speedily subsides, Broussais chiefly founded his doctrine. But it has been shown that this was a hasty generalization. The true explanation of the fact is, that by subduing the local inflammation, we remove a focus of irritation, which opposed the salutary operations of nature.* After a few paroxysms of fever, we have ample reasons to suspect such local complications, and it is then found too late to rely upon quinine alone even in intermittents. Whether the inflammation be in the viscera of the abdomen, the thorax, or the cranium—and we have seen that all are occasionally involved—it constitutes a part of the morbid chain, and calls for a corresponding complexity of treatment. The antiphlogistic alone is not sufficient, as in pleuritis; nor that alone which acts upon the system.

The poison producing fever seems to exert its first influence upon the nervous system. The nerves of the cerebro-spinal axis are first disturbed. Hence the langour, head-ache, dulness, loss of apetite, disturbed sleep, and general *malaise*, the precursors of an attack of fever. The nervous system is marked by a peculiar law—that of periodicity, or intermission.† It is active, and reposes by turns. Repose is essential to its health. Intermission being an attribute of the tissue which sustains the first morbid impression, the same character is stamped upon the disease. All essential fevers exhibit this tendency, and in one type, the intermission is complete. All diseases located in the nervous system are intermittent, notwithstanding that the cause may be permanent.

*Stokes, Op. cit. p. 416.

†Dr. John Bell's Lectures, p. 550.

A spicula of bone, for example, irritating the brain will excite epilepsy recurring at distant intervals, though the irritation be always present. And, in like manner, coma, catalepsy and hysteria recur periodically, while the cause of irritation may be some permanent organic lesion. In fever, the system of nerves controlling animal life being depressed, all parts of the system—the skin, the viscera, and all the organs of circulation—are disturbed with it. For it is not mere depression of action; it is action also perverted. Congestions of the viscera, abdominal, thoracic, and cerebral, occur, which changes of temperature, irregularities of all sorts, fatigue, etc., especially favor; and these congestions being repeated, to be followed, still, by violent reaction, lesions at length are established in some system of organs, and become independent foci of irritation, reacting upon the cerebro-spinal axis, and increasing and perpetuating the morbid commotion.—That the intestinal canal should become most frequently the seat of these local inflammations would be inferred *a priori*, if post mortem examinations had not established the fact, from the circumstance of the extreme excitability of this tissue, and that it is peculiarly under the influence of aerial vicissitudes, of mental emotions, of fatigue, and of food and drink. All these, in fact, become the exciting causes of fever, when the nervous system is laboring under the effects of malaria. They often hasten the attack of which the premonitory symptoms had been for some days in existence; and by irritating the digestive apparatus they favour congestions and inflammation in that system.

Thus, to recapitulate, we have two classes of phenomena conjoined in fever: the first, irritation of the nervous system induced by the impress of malaria; the second, congestion or inflammation of some part, most commonly the mucous lining of the stomach and intestines, or of some of the associated organs, but often, also, of the lungs, and of the brain and its membranes. In the chill, the nervous system is depressed, and with it the action of the suffering organs falls below the healthy standard. Reaction follows the chill, and

the diseased organs also reacting, irritate the nervous system still further, and excite the heart to more violent action.

TREATMENT.

In the access of fever it is impossible to say what type it will assume. Remittent fever may be converted into an intermittent, by good management, in favorable cases, and intermittents often degenerate into the remittent form, or even assume the character of the formidable congestive type. In the same family, we meet with all the grades, from the mild intermittent to the congestive.

Dr. Cartwright assured the writer of this paper, that, in the yellow fever which prevailed in Mobile, New Orleans, and Natchez, in 1839, if, in the forming stage of the disease, viz; within an hour or two after the access of the chill, *ten grains of sulphate of quinine* were administered in a single dose, it often had the effect of arresting the fever or converting it into a mild and tractable form.* The same is true of the common intermittent; but, as in yellow fever, the remedy must be administered before the case is complicated by local inflammations. It was only while the fever was forming that the quinine possessed the power of subduing it; and it is only after the first few paroxysms, that this article can be relied on, singly, in chills and fever. After a few of

*Dr. Johnson in his work on Tropical Climates reports a similar practice as having been pursued by La Fucute, with singular success, in a malignant fever of Andalusia. "His plan," he remarks, "was to force the patient, if possible, to swallow six or eight ounces of bark within the first forty-eight hours of the disease. At the village of Los Barios, a few miles distant from St. Roque, ninety patients took the bark within the first eight hours of the fever, of whom *none* died, excepting one man carried off by a gouty affection. Of eight patients to whom it was administered between the eighth and tenth hour, all recovered. Of five who began between the twelfth and twenty-fourth hour, three recovered and two died. Of twenty who did not take it till the second day, thirteen recovered and seven died. Of seventeen who waited till the third or fourth day, eight recovered and nine died. And lastly, out of eighty persons who made no use of the bark, but took other remedies, only twenty-two recovered and fifty-eight died."

these commotions, it has been seen, the viscera become involved in disease demanding other treatment. In confirmed cases, purgatives must be superadded to the bark or quinine; and, not unfrequently, venesection, local and general, becomes necessary to subdue the local inflammations. Of the propriety of the last named remedy, the physician will judge from the violence of the paroxysm, the amount of local pain complained of, and the evidences, on examination, of inflammation in any organ. Dr. Stokes urges, with great emphasis, the importance of such an examination of all the regions of the body. "Here, gentlemen," he observes, "let me entreat of you to lay this down for yourselves as a rule never to be departed from, that before you prescribe the slightest medicine you first make an accurate and perfect survey of the state of the viscera. The whole nicety of treatment," he continues, "turns on this. If the case be one of the essential kind, we know the remedy which will answer, if not in all, at least in the majority of cases. If it be symptomatic, your treatment must be directed to the removal of the local lesions."* Quinine, aided, if complications exist, by moderate bleedings, and an occasional cathartic, of which calomel is the best, will not often fail to check intermittent fever. But the disease is known to be peculiarly apt to return again, on any slight exposure or indiscretion of the patient, and, after repeated recurrences, to induce an anœmic condition of the system. It becomes almost a law of the economy, and although often checked by quinine, as frequently appearing again under the most trifling irregularities. Such cases are familiar to all practitioners in miasmatic districts of country. Continuing, at intervals, through the winter, they break out in the spring, and persist during the summer. In such cases, bark and quinine cannot be depended upon; and, as in all similar states of the sanguineous system, in which the blood appears to be degenerated from a healthy condition and to be deficient in red globules, the preparations of iron exert the happiest influence.

*Op. cit.

Trousseau developes this principle fully in his recent treatise on Materia Medica. Dr. Stokes, also, gives his testimony to the value of iron, in such conditions of the system. I have relieved many of these obstinate cases of intermittent by the carbonate of iron, combined with a vegetable bitter. The ferro-cyanate of iron, however, is the form which seems to be best adapted to these cases. Stokes esteems the introduction of Prussian blue as a great improvement in medicine. He gives it in doses of from a "scruple to half a dram, three times a day."

The only other remedy of which I shall speak in simple intermittent is arsenic, which, according to M'Cullock, Sir Gilbert Blane, and others, may be used in some cases where bark has failed. This, Sir Gilbert found, was the fact in the fever which afflicted the British troops during the Walcheren expedition. In the fevers of young subjects who can with difficulty be brought under the influence of quinine or bark, I have often used Fowler's solution with satisfactory results. But where quinine can be given, and is borne by the patient, it is superior to all other remedies in recent cases; and has this advantage over arsenic, that it is uniformly harmless. Cases are on record, in which patients, who had used arsenic, fell into bad health, became weak, emaciated, and presented a remarkable derangement of the digestive organs, after recovery from the fever. Stokes relates instances of irremediable mischief from the long-continued use of this remedy. Such have never occurred in my practice; but the experience of so able a practitioner should induce caution in others. The dose of quinine commonly prescribed may be increased with advantage. Dr. Stokes prefers ten grains at a dose, once a day, to the same quantity in smaller doses during the day. I remember an interesting case, which goes to the same point. I had a patient, a young man from Alabama, who, having had a severe attack of pleuritis in the winter, fell into chills and fever in the spring. He tried the quinine in doses of one and two grains, and with them succeeded in checking the disease; but it still returned. In one of the paroxysms, per-

haps the second of a third relapse, I gave him sixteen grains at a single dose, in the height of the chill. Warmth was soon restored; sweating came on without any well-marked febrile paroxysm; and the chills left him to return no more. I have alluded to a condition of the system, induced by repeated attacks of intermittent fever, in which the preparations of iron exert an excellent influence, but I should leave the subject very incomplete without a reference to those visceral obstructions that are so likely to arise in the progress of this disease, and which, in fact, constitute one of its chief sources of danger. Dropsy is a well known consequence of such obstructions, and it has lately become a matter of remark, that tubercular consumption is frequently developed in persons whose health has suffered from long continued intermittents. The danger of so formidable a disease should cause us to redouble our diligence to subdue the fever while yet in its recent and tractable stage. In chronic cases the patient should, if possible, seek a change of air, avoiding localities where malaria abounds; and, for the rest, should adopt all those measures which are calculated to restore the deranged viscera to healthy action, and impart tone and vigor to the system. For fulfilling the latter indication some practitioners prescribe sulphate of copper, in preference to the salts of iron, combining it either with quinine or some astringent bitter. In such cases, almost every thing depends upon the care and discretion of the patient, and without his faithful co-operation relapses will continue to take place, and, at length, some of the dreaded sequelæ will make their appearance, in spite of all the resources of the physician.

Intermittent fever, now and then, assumes a form in southern climates, in which other modifications of treatment become necessary. I allude to what is called in this country, congestive fever, but which seems to have been long ago described by writers under the name of "malignant intermittent." Alibert gives an accurate description of congestive fever under the title of "algid" intermittent. From the descriptions given by Senac, Lancisci, Lind, Pringle and Cleg-

horn as well as by Bailly more recently, of these intermittents, it is clear to my mind, that they are identical with the formidable fever of our region. A more graphic account of our congestive fevers could not be found than that contributed by surgeon Shields in Johnson's work on Tropical Climates. "The patient," he says, "on the first attack frequently falls down and is insensible during the paroxysm, his body covered with cold clammy sweats, except at the pit of the stomach, which always feels hot to the palm of the hand; the pulse is small and quick. The length of the paroxysm varies from six to eighteen hours, and was generally succeeded by cold rigors, very often low delirium, preparatory to the next stage or paroxysm of the fever. The intellectual functions now become impaired, the patient not being at all sensible of his situation or of any particular ailment. If the patient be asked how he is, he commonly answers 'very well,' and seems surprised at the question. This is a very dangerous symptom, few recovering in whom it appeared. A great proportion changed in a few days to a bright yellow, some to a leaden color; other cases terminated fatally, in a very rapid manner, too, without the slightest alteration in that respect. Generally, however, the change of color indicated great danger. In some a purging of vitiated bile occurred; in a great many a torpor prevailed throughout the intestinal canal; rarely did any natural fæces appear spontaneously."

Lind describes the following case as a malignant intermittent, which answers fully to the symptoms of congestive fever:

"A young gentleman was seized with a fit of an ague, and in half an hour became delirious, then comatose, and at length speechless. Finding him in this state, I ordered a blister to be applied to his back, and a cordial julep with salt of hartshorn to be poured by degrees into his mouth. In two hours afterwards, upon recovering his senses so as to swallow with ease, I ordered him two ounces of tinture sacra, and then as soon as the fever and sweat had abated, without waiting for the complete effect of the purge, half a dram of bark every four hours. He began the use of the bark three hours after

he had taken the tinct. sacra; but before he had taken five drachms of it, he was seized with a second fit, and in like manner became delirious, comatose, and speechless. Sinapisms were applied to his feet, and other irritating applications used, until the fever was terminated by a plentiful sweat.—Thus, having twice narrowly escaped dying in the fit, a dram of the bark was ordered to be taken punctually every hour. He soon took two ounces of it, which had so happy an effect, that the fever left him entirely, and he was quickly restored to perfect health."*

I will add one case more of algid fever, as given by Dr. Bailly. The subject of it was a man æt. 60 years, of thin habit of body, but healthy up to the time of the attack, 18th August.

"He had a paroxysm of the common kind, which went off in a sweat. On the 19th he was brought to the hospital, and had a return of the fit, in which he complained much of inward heat. Expression anxious; the features were in a manner flattened on the bones of the face; the complexion was natural; look heavy. Evening: decline of the fit, skin moistened with a viscous and cold sweat; pulse small and frequent; agitation general; pain at the epigastrium; tongue red, but moist—no thirst. (Half an ounce of bark.) Throughout the night the skin was moist. Patient vomited the bark.

"On the 20th of August, in the morning, there was a remission of fever, the pain had disappeared, and the countenance was tranquil. About noon, a fresh paroxysm came on, and although a great heat succeeded the chill, the extremities remained cold, and the skin was covered with livid spots. On the 21st, general calm, but the extremities still cold; pulse small and frequent. Towards noon, there was a return of fever, preceded by chill; exacerbation of the preceding symptoms. The patient does not feel the coldness; he is in a measure benumbed and torpid. (Bark: an ounce to be taken through the night.)

22d. Skin less cold; pulse small and frequent; a viscous sweat over the whole body; look heavy. (Two ounces of bark.) At 10 o'clock, return of the paroxysm; pulse not to be felt at the arm; beats 140 at the crural artery. An icy coldness of the extremities; abdomen flattened, even con-

*Essay on diseases incidental to Europeans, in Hot Climates, &c.

cave, its parieties applied as it were to the spine; pain of the stomach, agitation, anguish: the patient who has never lost his understanding, is in a state of torpor, which barely allows of his answering any question. The complexion is natural. (Twelve leeches applied to the epigastrium; blisters to the arms; bark, three ounces in powder to be taken during the night. He has vomited the bark.)

"23d, A well marked remission. Towards nine o'clock, return of the cold, which is like that of marble; pulse imperceptible, artery beats 144 at the thigh. Pain of the stomach more intense; anxiety, great torment, eyes sunken. The cold, which hitherto had been confined to the extremities, extended to the shoulder and the pelvis. The head was cool, the thorax and abdomen not of their natural temperature; thighs icy like the legs. Evening; same state; he did not feel the cold of his legs, but was aware when touched by another that the skin of the latter was warmer than his. Pain of the stomach incessant. Lies on the back. Death at 3, A. M."

I will now briefly compare the history of congestive fever with the description of these cases. Dr. Russel thus writes of this fever:*

"There is nothing in the first chill or fever calculated to alarm; but the second or third may indicate the greatest danger. The chill is not generally very distressing, but the excitement upon reaction is excessive—the pulse is full, frequent, and resisting; the skin hot; pain in the head intense; the eyes often red; thirst for cold drinks urgent; violent throbbing of the carotids—in fine every symptom of a most malignant fever is present. Upon the decline of fever, a profuse, cold, clamy sweat breaks out, but affords no relief. The pulse rapidly sinks, becoming sometimes imperceptible. The whole surface is cold and shrunken, but especially the face, giving to the countenance a ghastly expression. Great distress, referred to the chest and epigastrium; oftentimes a burning heat, and superadded is a restlessness, which the patient cannot control. Respiration hurried and difficult. In some cases constant vomiting, or repeated ineffectual efforts; in others, hypercatharsis, which usually ensues after the exhibition of a hydragogue. The strength of the patient is of-

*Transylvania Journal, vol. 6, p. 90.

ten astonishing—he is able to rise at pleasure from his bed—to change his position from place to place; in fine, to control every muscle of his frame."

The following is a case of congestive fever, reported by W. J. Johnson in the first volume of the Southern Med. and Surg. Journal: About sunrise on a morning in August, 1835, a negro man, aged 30, was attacked with pain in the head and shivering. He was ordered to bed, and wraped up warm, and a bowl of hot sudorific tea was given him. Patient complained no more, and lay in bed perfectly calm and quiet; breathing laborious; eyelids open, and eyes fixed; made no reply when spoken to; extremities cold and clammy; pulse slow and struggling. Death in a few hours.

The same writer details the particulars of another case:

"A boy at school, æt. 14, in the midst of apparent good health, was seized with congestive fever in such a degree that he was thought to be dying. He was bled, and vomited—half-digested chesnuts were thrown up. Cups were used, with sinapisms to his extremities, and a blister to the neck. He continued in a state of collapse. By the use of calomel, enemas, cupping, and stimulants, a large quantity of dark, vitiated, offensive bile was brought away from the bowels. After this, he became sensible and expressed himself better. Reaction was considerable, and the antiphlogistic plan was pursued for several days. His friends entertained the strongest hopes of his recovery, when on a sudden he complained of acute pain in the head—went delirious, and seemed for some time to be laboring under an attack of phrenitis. These symptoms were attended with convulsions and other nervous symptoms. Blisters were re-applied to the head and behind the ear; but notwithstanding this, he went in a fatal collapse, from which he never recovered. The pupils of his eyes were widely dilated, insensible to light; picking at the bed clothes; low, muttering delirium; incoherent speech; *subsultus tendinum;* involuntary evacuations, were the symptoms which closed the scene."

I will not multiply instances; but I cannot forbear expressing my belief, that any physician who will carefully compare

what he has seen of congestive fever with the histories given by European, and especially Italian writers, of the malignant intermittents of miasmatic regions, will come to the conclusion, that the two diseases are identical. In the congestive fever of the South, therefore, I conclude that we have the algid fever of Alibut—the pernicious or malignant intermittent of Senac, Lancisi, Lind, and other old writers on the diseases of the tropical climates. It is proper, however, to remark, that remittent as well as intermittent fever is subject to degenerate into this malignant type, and in treating of the cure I have not pretended to distinguish between them, regarding them all as modifications of bilious fever. Congestive fever, I have said, calls for a modification of the treatment usually successful in the simple remittent or intermittent. That modification has been introduced by the practitioners of the Valley of the Mississippi, and if judiciously adopted and pursued, promises to rob this fever of a large share of its terrors. It consists in the *cold water dash*, as in cases of asphyxia, and in liberal doses of sulphate of quinine. The latter remedy given in the forming stage of the disease will often convert it into a simple intermittent. It is to be given in ten grain doses, and repeated according to circumstances. Of the application of cold water in asphyxia of such fevers, with signal success, we are in possession of much testimony from practitioners in various parts of the South-west. Among the first to adopt the practice, I believe, was Drs. Fearne and Erskine, of Huntsville, Alabama; but without being acquainted with the results of their experiments, Dr. Addams, of Cynthiana, Kentucky, resorted to it, with the happiest results, in the asphyxiated stage of cholera. Dr. Russel, in the article referred to, has recorded some highly interesting and instructive cases of recovery from congestive fever under the use of the cold dash. I cannot better illustrate the practice than by transcribing some of these cases.

His second case was that of a man whom he found in the greatest state of restlessness, complaining of a sense of excessive internal heat.

"His pulse was barely perceptible, skin cool and wet with sweat, respiration impeded and frequent; there had been no evacuation from his bowels, notwithstanding he had taken, according to the estimation of his friends, sixty grains of calomel. This being the third case I had seen, and my confidence in the efficacy of cold water being unbounded, I without delay made the application. As usual, the relief was instantaneous, and so agreeable was it to the patient, that for the remainder of the time he was confined, he kept by his bed-side a vessel of water which he used at his pleasure according to the suggestion of his feelings. Reaction was thus completely established, and with mild cathartics and quinine he was entirely restored to health."

Dr. Erskine details the particulars of a case, the subject of which was found in the third paroxysm of regular intermittent fever of the tertian form, which had been neglected. The cold, clammy surface, feeble pulse, great restlessness and precordial distress were present, as in all such cases. Cold well-water, rendered colder by the addition of table-salt, was dashed on the naked surface. He feel asleep soon after being put to bed, and had ten or twelve hours rest. Reaction was complete next morning, pulse slower and fuller; no return of the clammy sweat. "He recovered in a few days upon the use of bark, with occasional doses of mild aperient medicine."

A second case reported by Dr. Erskine is one of algid intermittent. The subject, a female, had the symptoms of simple intermittent; but in the second paroxysm, symptoms of a malignant character occurred. A cold, clammy sweat appeared on the extremities, accompanied with great restlessness and anxiety, for which Dr. E. at first tried sponging with cold water, as the friends objected to the cold dash; but the patient growing much worse in twelve hours, he had recourse to the affusion. When he resorted to it, the extremities were cold and shrivelled, pulse feeble, features contracted; great restlessness was present, with considerable alienation of mind. The water was poured on her body from a pitcher, and being wiped dry she was put to bed, where she slept for an hour or two. The cold sweat was then found to be returning, and

the cold water was again applied. The renewal was found necessary three or four times. A few doses of calomel and quinine completed the cure.

The last case reported by Dr. Russell is in the language of Dr. Fearn, and is highly instructive:

"Sylvia, a favorite mulatto servant, belonging to Dr. David Moore, was attacked with intermittent fever on the 11th of September. I saw her on the morning of the 16th, and found her in the following condition: Her whole body shrunk, cold, and bathed in a clammy perspiration—skin shrivelled, as if she had been for some time immersed in water. The extremities were of a marble coldness—some restlessness, and occasional sighing, but without any distinct pain; mental faculties unimpaired; pulse scarcely perceptible at the wrist, and beating 130 in a minute; tongue moist; cold drinks alone were craved; every thing warm or stimulant was loathed. I was informed that the first paroxysm had gone off in the usual manner, with perspiration, and was followed by a complete intermission. On the 13th, a second paroxysm came on; the extremities continued cold for some time after the body was hot, and the fever did not give place to an entire intermission, as it had done two days previously. On the 15th some fever continuing, an emetic of ant. tart. was administered. It operated well, but not inordinately, both as an emetic and cathartic. The fever subsided rapidly, perspiration came on, and continued through the night, increasing in quantity, and assuming a more cold and clammy character, until she was reduced to the situation in which I found her next morning."

Cold affusions were ordered, to be repeated every two hours, but as the prescription was left to be executed by the overseer, the physician found, in the evening, that the bath had been given but twice, and that the situation of his patient was in no way improved. On his visit in the evening the affusion was again made, and by next morning the danger had passen. She had slept well—warmth was restored. Quinine and bark, with mild laxatives, were the only remedies subsequently used. The paroxysm did not return, and the convalescence was rapid.*

*Trans. Jour. Med. loc. cit.

To the efficacy of the cold affusion in the collapsed state of congestive fever, I will only add the testimony of Dr. Keller, of Alabama. He says:

"I have seen it tried often, and in two-thirds of the cases it proved entirely successful. One case I recollect—that of a favorite servant; the family had despaired of her life, and had removed her to an adjoining room to die. She was entirely pulseless, and had been so for hours; the cold dash was applied twice in an hour, and in three hours the excitement was so great as to require the free use of the lancet—in a few days she was as well as ever." He adds: "If cold water fails to excite in this stage, you may consider the case of your patient hopeless."

Dr. K. has found it far more effectual in rousing the system from the state of asphyxia, or collapse, than the most powerful stimulants.

It is curious to remark, how exactly this is in analogy with the action of the same remedy in asphyxia from other causes. In poisoning with the mephitic gases, and in cases of drowning, or of syncope from the effects of lightning, cold water in the form of affusions is well known to be the most efficient remedy. The same is also true of poisoning by opium; and late experiments go to prove that in the asphyxia induced by an over dose of hydrocyanic acid it is the most certain restorative. So that, on this point, we seem to have arrived at a general truth—to have established a great and valuable principle; and if future researches should confirm it, cold water will become the remedy in all aphyxiated conditions of the system, whether induced by lightning, the noxious gases, an over dose of arsenic or prussic acid, or occurring in fever or cholera. The experience of Dr. Addams in the collapse of cholera has already been alluded to, and his paper on the subject contains the history of a number of cases of the highest interest to which, as being analagous to cases of congestive fever in the same stage, I will refer more in detail.

His first case is that of a man aged 30, of robust constitution. He had been affected with choleric symptoms for four

or five days. Collapse supervened on the fifth. His skin was icy cold and bathed in perspiration—pulse nearly imperceptible, breathing oppressed, tongue cold, spasms, eyes sunk, "countenance collapsed." Vomiting, and watery discharges from his bowels copious and frequent. Recovered under the cold water affusions, with a few doses of calomel and quinine.

Case 2d.—A little boy, aged 11, had all the above described symptoms. Other remedies failing to excite, the cold affusion was applied, once and again; reaction occurred, and he got well.

In the third case the termination was fatal, the patient, a woman, aborting, and sinking twenty days after her attack. The cold water recovered her from the state of collapse, and her death was clearly the consequence of the abortion. The child had been dead for several weeks, from appearances indicated.

The next case was one of deep collapse. It terminated favorably. The cold water was repeatedly applied, always restoring warmth and exciting the pulse.

Dr. A. refers to many cases treated successfully by other physicians in the same way. After free depletion by venesection, purgatives and emetics, he deems the remedy inapplicable.*

It would be difficult, I think, to find in the annals of Medicine, more unequivocal testimony to the efficacy of any remedial agent, than has here been brought forward in favor of affusions of cold water in the asphyxia of congestive fever. I shall add nothing to these details which already, perhaps, have been sufficiently extended.

Before taking leave of the treatment of congestive fever, I will allude briefly to the views of a late writer on the subject. Dr. Hardin, of Kentucky, reported some cases in the first volume of the Louisville Journal of Medicine and Surgery, marked by certain peculiarities, which terminated fatally. In a late number of the Western Journal of Medicine and Surgery he has extended his remarks, and has added two fatal

*Trans. Jour. Med. vol. 8, p. 61.

cases which exhibited the same peculiarity. This peculiarity consisted in copious evacuations from the bowels of "mucus, as green as wheat, inodorous, exceedingly acid, and incapable of communicating any tinge to water." He treated these cases in the usual way, with calomel, v. s. blisters, ipecacuanha, pulv. antimon. &c. Gangrene of the mouth and gums came on, with fatal symptoms of collapse. He regards the *green, mucus discharges* as pathognomonic, and insists, that whenever they appear, calomel is poisonous, inducing with fatal certainty gangrene of the mouth. In such cases he applies sinapisms to the whole extent of the spine, upon the principle of arousing it to action, and thereby invoking secretion from the abdominal viscera. And this practice appears to have succeeded admirably in his hands. He relates the histories of several remarkable cases, and states that he has had much experience in the application of the remedy. The following is the sixth case in Dr. Hardin's paper:

"Sept. 1st. 1838, I was requested to visit a youth aged 12 or 13 years, of good constitution, who had been sick some twelve days. Symptoms—expressed himself as being free from pain; tongue dark red and very dry; skin rather hot; pulse too frequent and sufficiently full; restlessness very considerable. He had been in a similar condition from the commencement of the attack; had taken 25 grs. calomel every night, with rhubarb on the following morning when the calomel failed to operate. Discharges represented as having been consistent and bilious from the beginning. The same treatment was continued for one night longer.

"Sept. 3d. Gangrene of the gums apparent; surface cool; pulse small, weak and frequent; alvine evacuations represented as being still consistent and bilious; but upon inspection were found to be a dark green mucus. Spinal irritation with mustard seed was used every twelve hours, and the bowels moved with rhubarb. Under this treatment the patient recovered, but was considerably endangered for some days by gangrene and hemorrhage from the gums."*

In all cases of this fever (congestive) of ordinary violence,

*See No. xiv. of this Journal.

Dr. H. found the respiration laborious, with feeble radial pulsation, cool surface and extremities, and an intolerable sense of weight at the epigastrium. He had in vain attempted to rouse the circulation by synapisms and warmth to the extremities; but, applied to the spine, they have produced marked advantage. The extremities grew warm, the præcordial distress is removed; in other words, the balance of the circulation is restored. Besides the irritation over the spinal cord, Dr. H. gave rhubarb as a purgative; but no calomel. He relies upon the sinapisms, aided by ten grains of Dover's powder and five grains of camphor, to prevent the paroxysm.

I have gone somewhat fully into an explication of Dr. Hardin's practice, because it is novel, and involves a principle which, if confirmed, will prove a highly important one. That there are cases in which calomel is unequivocally pernicious, may well make those pause who use this remedy, indiscriminately and perseveringly, from the beginning to the close of bilious fever in all its grades. If Dr. H. has hit upon the distinctive feature of such cases, he has discovered a most valuable fact in practical medicine. I can only add that he is a gentleman of excellent moral character, whose accuracy and faithfulness in the statement of facts may be fully relied on. And in the present case he reports, that his experience has extended through two years, and that he has tested the practice in a multitude of cases.

In support of the liberal use of quinine which I have proposed, much testimony may be adduced. I have referred to the remark of Dr. Cartwright concerning its utility in the access of yellow fever. Dr. Perrine, twelve years ago administered the medicine in suoh doses as to amount to a dram in a single intermittent.* Dr. Monette, both in the American Journal of the Medical Sciences, and in the Western Journal of Medicine and Surgery has given his favorable opinion of the practice. Dr. Drake says he has been in the habit of giving it in doses of ten or fifteen grains.† Dr. May reports some

*Western Journal of Medicine, vol. xi.
†Ib.

interesting cases in which it acted benignly in such doses. In his own person he used fifteen grains of quinine, during the fever, which left him while taking it. "I passed the day," he says, "without the recurrence of fever; was affected with some degree of stupor, ringing in my ears and deafness; but with no other uncomfortable sensation. A dose of calomel taken about 8 o'clock, A. M., brought off evacuations of the consistence of black clotted blood."* He recovered, using quinine in smaller doses, with calomel and rhubarb. Dr. May found that given in the febrile paroxysm, it uniformly reduced the pulse. Such is the experience of Dr. Thomas Fearn, also, who gives a striking case in the 9th volume of the Transylvania Journal of Medicine. The patient labored under bilious fever, having had repeated attacks of intermittent fever in former years. It was in the advanced stage of the disease, and Dr. F. believed his patient would die in the next paroxysm. He gave quinine in doses of thirty-two grains at the occurrence of the apyrexia, but while the pulse was still a hundred in the minute. In an hour there was a diminution in the frequency of the pulse—"the invariable effect," he remarks, "of a large dose of quinine." Another dose of the same size administered in an hour was attended with a still further reduction of the pulse, and a "ringing in the ears." A third dose was given, making ninety-six grains in three doses. The patient recovered, Dr. Fearn's ordinary dose of quinine is twenty grains.†

From all this—and it were easy to add much to the same effect, if time and space permitted—it is clear, that quinine is to be regarded rather as a sedative than a stimulant, conforming, thus, in character to opium, which stimulates in small doses, but in large doses calms and subdues nervous and arterial excitement. Quinine, consequently, may be administered as well in the remissions, as in the intermissions of fever. This is the conclusion, at least, to which the writer of this essay has come, and the practice he would earnestly recom-

*Transylvania Journal, vol. x
†Transylvania Journal, vol. x.

mend to the consideration of the profession. This preparation of bark appears to be a *febrifuge*, in the true acceptation of the term—preventing the chill, and moderating and abridging the paroxysm of fever. I would give it at the access of fever, while the disease was yet in its forming stage, and I would watch the earliest remission, and administer a dose of ten or fifteen grains, with a view of converting the subsidence into a complete intermission. And from all the experience I have had, as well as from what others have written concerning this practice, I am convinced that it is the best mode of treating fever. In saying this, however, I am far from meaning to convey the impression, that, in the treatment of fever, I should rely exclusively upon quinine, or upon it in conjunction with all the remedies heretofore enumerated. I mean simply to say, that I am constrained to regard it as a most important improvement upon the system too generally confided in—that of purgatives and the lancet.

Of the lancet I have already spoken. It should be used wherever we have reason to suspect local lesions, and it should be employed, also, in cases of excessive arterial action to obviate the danger of such lesions. But I should deem it a useless waste of time to dwell upon the value of a remedy, the indications for which are so familiar to the profession. That it has been abused, and that it may be carried to excess, no one can question, any more than that it is imperiously called for in many cases of fever. Marshall Hall has well described a morbid state to which excessive venesection gives rise. We see it in the nervous irritation, the throbbing temples, headache, &c. with which females suffer who have been the subjects of profuse uterine hæmorrhage. But in describing the circumstances which should regulate the employment of the lancet, I should be but repeating what is fully and clearly laid down in every standard work which treats of fever. Nor shall I dwell at greater length upon the value of local bloodletting, which, by the universal consent of the profession, is placed at the head of the means for subduing local inflammations. Leeches are more eligible under certain circumstances, but cupping is to be preferred in a majority of

cases, as being more under our command, and enabling us to adapt the bleeding to the violence of the affection. I esteem the general use of this measure by the profession one of the greatest improvements in the practice of this country. As a mean of controlling local disease, it exceeds in power all other remedies, at the same time that its action is immediate and clear, and its application attended with but little pain. It is never to be omitted where the disease shows a disposition to fix upon particular organs.

It is difficult to speak of purgatives in fever without entering into discussions and details which would extend this essay beyond all reasonable limits. I shall, therefore, confine my remarks to a few points upon which my experience enables me to speak with confidence. I will not institute a comparison between the value of cholagogue and hydragogue cathartics, nor dwell upon the fact, so universally admitted, that the procurement of dark, consistent evacuations is a most favorable circumstance in cases of bilious fever. Neither shall I stop to inquire in what way the purgatives, usually styled bilious, exercise their curative influence—whether by promoting the secretion of the liver, or by removing the local lesions of the alimentary canal which are known to maintain febrile excitement. The statement of a few facts, however, bearing on this point, may be proper. First, then, it would seem to be unphilosophical to address our remedies exclusively to an organ which post mortem examinations have proved to be frequently free from disease: and equally so to infer, that, because purgatives act beneficially, they do so by disgorging the liver of its vitiated bile. That calomel, which exerts a decided influence on the liver, is a most valuable remedy in fever, I freely admit; nay, I am ready to maintain, that it is indispensable in the management of the fevers of the Misssisippi Valley. But it does not necessarily follow, that it relieves the patient by its action on the liver, which may be in a healthy condition.

The second fact upon which I would lay a good deal of stress is, that calomel, which may stand for the class of purgatives, has been proved by many experiments to be quite

the opposite of a stimulating, or irritating medicine, when applied to inflamed surfaces. In the person of the patient of Dr. Beaumont, this fact was clearly established. When the stomach of Saint Martin was seen to be red and dry, and he had no appetite, a few grains of calomel introduced through the orifice in the abdomen had the effect, in a short time, of removing the hyperœmia, and allaying all the symptoms of gastric disturbance. The same remedy we apply to external surfaces in an inflamed condition. We give it in dysentery with advantage, where the large intestines are known to labor under inflammation. It is a remedy of most unequivocal value in croup, the essential feature of which is high inflammation. We give it in cases of excessive gastric irritability, where no other medicine can be retained, and we find it to check and relieve the vomiting and nausea. But why multiply examples? All the facts connected with the operation of calomel prove it to be a sedative, allaying gastric irritation, favoring sleep in the sick and watchful, curing a bad cough, and relieving the heat and pain of gonorrhea. That such is its character no physician can doubt who has watched its action upon young children, and seen it induce sleep like an opiate. And as a sedative no doubt it is, in part, that it brings relief to the febrile patient. Acting directly upon the inflamed surfaces, it removes one of the conditions by which the febrile action is perpetuated. But the liver and other abdominal viscera being often though not uniformly in a state of congestion, it relieves this state of things by promoting their secretions. Calomel, therefore, is well retained as one of the most efficient remedies in fever, although we reject the theory of hepatic congestion upon which it has been used to so great excess.

In point of activity there is no great difference between a large and a small dose of calomel. The article is nearly insoluble, one part requiring two thousand parts of water to dissolve it, and, consequently, when administered in large quantities, much of it passes unchanged, but partially altered in chemical composition, as I have observed. I have known a patient to take sixty grains of calomel, and have but a sin-

gle moderate passage from it; and a week afterwards have known the same individual to be purged six times by ten grains of this medicine. Of course, his system was in a different condition at the two periods; although the difference was not manifested by the symptoms, for he was laboring under diarrhœa each time. But all physicians must have remarked, that the effects of this medicine are by no means proportioned to the dose of it, and that one or two grains of it will often excite the bowels, quite as freely as a scruple. Some writers maintain, that it is more likely to irritate the stomach and bowels in small than in large doses.

If these views be correct, very large doses of calomel, to say the least, are unnecessary. It is also unphilosophical, upon these principles, to increase the dose with the evidences of intestinal torpor, and to depend upon curing the disease by purging from the liver. If a dose of ten or twenty grains fail to operate, it is a proof that the remedy is not in harmony with the prevailing state of the system. The excitement may require to be moderated; and, then, v. s., cold water, tart. emet. or ipecac., in small doses, will cause the purgative to act well. Often its action will be promoted by combining it with quinine. In favor of this practice I might cite much authority. It may be found in all the American journals of medicine. By the use of the latter article in large doses, the system may be brought into a condition in which a few grains of calomel will produce satisfactory purging. And finally, according to the experience of Dr. Hardin, in one condition of the spinal cord, the stimulation of sinapisms, applied along its course, will promote the desired operation. Far, therefore, from relying upon calomel alone, I cannot too strongly insist upon aiding its salutary action by the lancet, when indicated —by cupping, and leeches—by cold water, copiously used, externally and internally—by quinine, given so as to anticipate the paroxysm, and to shorten it—or by the application of excitants, in the apyrexia, or remission, to the spinal column, as the state of the patient may point to the propriety of one or the other of these measures. I am sure we have relied quite too exclusively upon this potent remedy in the treatment of our fevers.

A few years ago it was the practice to hasten the operation of calomel, when slow, by the administration of the neutral salts or castor oil. Dr. Rush, it is well known, used calomel and jalap combined, in doses of ten grains each. But since the appearance of epidemic cholera in this country, and probably even a year or two earlier, a disposition to serous evacuations has been remarked, in our fevers, which such purgatives promote. Hence, for a number of years, they have been pretty universally discarded. But this feature in the fevers of the South is gradually disappearing, and the saline purgatives may be restored to favor. As less likely to excite watery purging, aloes, rhubarb, extract of the juglans cinerea, and scammony, are both adapted to cases in which there is a proneness to such evacuations. These are to be administered in from eight to twelve hours after the calomel, should this fail to act in that time, and must be repeated, if the first dose is not sufficient. But here, again, I must bear my testimony against that practice, which consists in repeating dose after dose of such articles, without any attempt at bringing the system into a state favorable to purgation. Incredible doses of jalap, rhubarb, scammony and aloes are sometimes given in fever without purging the patient. In such cases the liberal use of cold water will frequently relax the bowels, especially if it be aided by the abstraction of a little blood, or by minute doses of tartar emetic. And where the stomach is so irritable as to reject all medicines, nothing will be found so soon to quiet it as the cold bath, and the liberal use of ice. I prefer giving a dose of calomel at bed-time, and securing its action by suitable adjuvants next day; and then waiting till evening before repeating it. Some hours are necessary to enable it to exert its whole beneficial influence upon the system: and once in the four-and-twenty hours is as often as it has been my practice to exhibit it. At the same time, I will not undertake to say, that there may not be cases in which it is proper to administer it more frequently. But I greatly fear, that by those who hold, that the only way of curing fever is to purge from the liver, it has often been pushed too far; an error which has contributed to excite great prejudices against

it in the public mind, and to give a class of empirics a temporary advantage over the regular practitioner. The danger of ptyalism—very great in children—is not to be forgotten where it is necessary to give calomel day after day for a long time. Nor should we lose sight of the fact, that there are morbid states which particularly favor this mischievous action of the medicine, and that many constitutions are peculiarly susceptible to it.

If, therefore, there be danger in large doses—danger of salivation, and of fatal gangrene of the mouth—and if small doses are as active, but not so likely to salivate, as large ones, why should we persist in the employment of the latter? If we can avoid the danger, and at the same time accomplish our object, by combining the calomel, or by varying our remedies to suit the varying indications of the disease, nothing is plainer, than that the moderate use of this formidable remedy is alike a matter of duty and good policy.

Of the subordinate remedies called for in the cure of fevers, I shall not speak at great length. I do not estimate the value of emetics highly, nor consider them as admissible in cases of gastric irritability, which symptom I have seen them seriously aggravate. Upon the whole, unless there are irritating ingesta to be removed, I am not sure that we should lose much by rejecting them in the treatment of our fevers. Yet, while I express this as the result of my own experience, I must admit that high authority can be found for the use of them. I well remember the success of the late Dr. Wilson Yandell, one of the earliest practitioners of Tennessee, whose uniform practice it was to administer an emetic, in the first stage of the attack. He held, as Rush also maintained, that by this course he frequently cut short the fever, or, at least, rendered it more mild and manageable. Graves says, tartar emetic frequently succeeds in cutting short, or removing febrile symptoms, and it is evidently one of his favorite remedies in those cases of typhus, where there is undoubted evidence of determination of blood to the head, producing headache, loss of sleep, and delirium. But this admirable author truly remarks, what must have struck all physicians of observation, that

every epidemic is peculiar and distinct in its nature, and that each, consequently, requires a peculiar mode of treatment. The fevers which have prevailed in the Valley of the Mississippi for the last fourteen or fifteen years have been marked by a tendency to congestion, in some seasons, and, in others, by an irritability of the stomach, forbidding the use of emetics. This, I am persuaded, is the general experience of the physicians of this region of country. I have long been convinced, that emetics exerted a most baneful influence in the case of the excellent physician above alluded to, whose premature death was occasioned by an attack of autumnal fever, in which he took tartar emetic more than once. After the operation of the last dose, his disease assumed the formidable congestive type. But I entertain a very different opinion of the virtues of cold water, as a drink and external refrigerant, in the hot stage of the disease. Indeed, I could hardly speak too warmly in praise of it, whether the comfort it gives to the patient be regarded, or the effect it exercises in moderating the violence of febrile action. Yet I do not think it admissible to dwell upon a remedy the virtues of which all practitioners are beginning to admit, and which must become the most popular of all our remedies for fever. Cold water is hardly to be ranked among the subordinate means for controlling febrile action. It deserves, rather, to be classed among the most efficient of the measures. Fortunately, it is one most consonant to the feelings of the patient. The history of practical medicine affords not a few instances in which patients have recovered, by violating the precepts of misguided practitioners, and indulging freely in the use of cold water. Ice is even more grateful than cold water from the spring, and in cases of great gastric irritability is one of our best remedies. Great is the relief I have often witnessed, in such cases, from allowing the patient to swallow little pieces of it every few minutes. In cholera infantum and dysentery, as well as fever, I have repeatedly seen it allay nausea and vomiting in the promptest manner.

While on the subject of cold water I will mention, that I have experienced admirable effects from the cold dash in ca-

ses of fever marked by obstinate determinations to the brain. The patient is to be placed in the hot bath, and while in this situation cold water is to be poured on his head from the mouth of a pitcher, or the spout of a coffee-pot.*

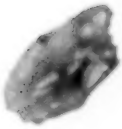
Opium may be given in the cold stage of intermittent fever without aggravating the fever, and with the good effect of abridging the cold paroxysm.

Blisters are indicated in fevers under a variety of circumstances, but it is particularly as stimulants, in the latter stage, or as revulsives, where local determinations occur, that they are to be used; and in such conditions their effect is often most salutary. Who has not seen them relieve the pain in the head, chest, or abdomen, sometimes persisting after free depletion, like a charm? No doubt they are often applied too early, in which case they increase the febrile excitement. They are not to be resorted to until after the violence of the disease has been subdued by evacuants. If, afterwards, local affections are manifest they are to be employed, unless cupping should be more clearly indicated.

The pulvis ipecac. compos., as a diaphoretic, may be employed in the advanced stage of fever; and the pulvis antimonialis is admissible at an earlier period. Tartar emetic in minute doses, with a view to diaphoresis, is a favorite prescription with many able practitioners.

But having pointed out the cardinal remedies in the cure of fever, I shall not attempt to enumerate the details of treatment; but shall only add, in conclusion, that much of the success of our remedies will depend upon the time of administering them, the fidelity with which their operation is watched and promoted, and the care with which the comfort of the patient is preserved. Stillness, repose, a darkened but well ventilated chamber, all things, in a word, that mitigate his anguish, contribute to his restoration, and in the worst cases may be pronounced necessary to recovery.

*See Southwood Smith on Fever, for full details of the efficacy of this practice.



Selections from American and Foreign Journals.

Report of a Case of Axillary Aneurism, in the General Hospital, U. S. A., at Picolata, E. F.—By Surgeon Charles M'Dougall, U. S. Army. John Kane, ætat. 24, a private of company K., third artillery, while escorting an officer some weeks since to St. Augustine, was shot by the Indians, and wounded in two places; one ball striking midway between the eighth dorsal vertebra and the angle of its rib, appeared in front, under the integuments, without having penetrated the abdominal cavity: the other, entering about two inches above the lower angle of the scapula, came out anteriorly in a line with, and severing the axillary artery, equidistant from the middle of the clavicle and the axilla. He ran his horse for half a mile, after being shot, when he fell, exhausted from hæmorrhage, and was brought to the general hospital in a state of insensibility. The circulation being extremely weak, skin cold and pallid, a little wine was administered, which, with warm applications to the extremities, soon brought on sufficient reaction to enable the system to recover its lost energies. On making a careful examination of his wounds, a ball was extracted from under the skin of the left side; the integuments around the anterior upper wound, were found enormously distended, having a dark, livid appearance. Life, in this case, has been preserved by the ordinary laws of the natural economy, syncope and pressure from the effused blood. Simple dressings to the wounds, perfect rest, evaporating lotions, moderate pressure, and the usual antiphlogistic means, constituted the treatment.

At the expiration of a fortnight, the effused blood and swelling had disappeared. The external wounds were healthy, and, judging from the small discharge, the internal track of the wounds had united by the first intention. The patient was considered out of all danger, and continued to improve

until the end of the fourth week, when a small pulsatory tumor suddenly appeared over the axillary artery, and directly under the external wound. A false aneurism was rapidly forming. The tumor continued to enlarge and pulsate with great violence, although pressure had been made above and upon it, and, after the tenth day, extended above to the clavicle, pushing that bone out of its natural position, downwards, into the axilla, and anteriorly, putting the pectoral muscles and integuments so greatly on the stretch, as to threaten momentarily to give way; pulse at the wrist almost imperceptible; has frequent and violent attacks of neuralgic pains, along the arm, forearm, and fingers; arm insensible to touch, and motionless. Sound, communicated to the ear by the stethescope, like the rushing of fluid at each descent of the piston of a forcing pump. There could be no doubt or hesitancy as to its important character. The locality of the wound—hæmorrhage—distension—absorption of the effused fluid—sudden appearance of a small pulsating tumor—its increase—pulsating equally over the whole circumference—sound—with the entire absence of all the symptoms of suppuration, made it doubly certain that the artery had given way at the wounded point. Apprehending an immediate rupture of the tumor, after consultation with that able officer of the Medical Staff, Assistant Surgeon Hoxton, (who, at the time, was among the number of my patients,) and agreeing that the taking up of the subclavian artery above the clavicle was the only alternative, determined upon the operation on the following day.

Saturday, Dec. 12th.—All the necessary arrangements being made, sixty drops of tinc. opii were given, and as soon as its effects were most apparent, he was laid upon a narrow operating table. After depressing the shoulders as much as possible, and drawing the skin about one-third of an inch over the clavicle, a transverse incision was made directly upon that bone to near its acromial end; this was done, in order to make the first cut with precision. The integuments resuming their natural position, the platysma myoides and superficial fascia were divided by repeated and cautious strokes of the knife to the extent of the first incision. The bleeding from two superficial veins, made it necessary to tie them. The external jugular was carefully avoided. About half an inch of the sterno-cleido-mastoideus was cut, the better to expose the nerves and vessels beneath. After separating the lymphatic glands and fatty tissue from their connexions, the cervical nerves were brought plainly into view, and on the inner side and beneath, to a great depth, was recognized the subclavian artery, which, for the want of a properly curved aneurismal needle, was with some difficulty secured by a ligature.

All pulsation at the wrist and the tumor now ceased. The pain, which continued throughout most of the operation, subsided. The edges of the incision being brought together by three sutures and two adhesive strips, and a light bandage drawn over the whole, the patient was conveyed to bed. ℞ pulv. doveri. grains x. Attendants to watch by the bed side.

13th—Passed a quiet night; no return of the neuralgic pains; no pulse at the wrist; arm still insensible; temperature below natural; some excitement; tongue much furred; bowels have not been opened; V. S. 1 ℔.; ℞. hyd. submur. grs. xv.; ol. Ricini ℥iss, six hours after. Evening—medicine has operated; skin moist; tongue cleaner; no change in the condition of the arm; tumor diminished some; ℞. pulv. doveri, grs. x. at 9 P. M.

14th—Slept well; expresses himself as feeling comfortable; tongue yet furred; ℞. acet. morph., tart., ant. aa grs. ¼, 9. A. M. Electric shocks to the arm. Evening—no apparent change; electric shocks cause an agreeable tingling sensation; looks well; repeat morning's prescription at 9, P. M.

15th—Continues to improve in general appearance; tumor evidently much smaller; feels soft and flabby; ℞. massa. ex. hyd., bi carb. sodæ aa grs. x, at 9, P. M.

16th—Bowels moved; wound examined and dressed. Discharge free and healthy; but a small part of the wound united; a slight blush around the clavicular end of the wound; adhesive strips with light cerated dressings over. Evening—no variation.

17th—Wound dressed; healthy granulations appear; free from excitement; arm has its natural warmth, and fast recovering its sensibility. Tumor daily and rapidly diminishing.

18th—Patient comfortable and cheerful; electric shocks continued; wounds dressed morning and night. 12, P. M.—suddenly called up to visit KANE; found him deluged in blood; breathing laborious; the hæmorrhage had taken place while he was asleep, and was arrested by the syncope; bandage being glued by the drying of the blood, was not disturbed; compress placed over it, with directions to attendants where to apply pressure. The artery had undoubtedly ulcerated at the point where the ligature had been applied.

19th—No bleeding since 12 o'clock last night. Noon—another alarming hæmorrhage, which was arrested by pressure; attendants to keep up constant pressure with the thumb by reliefs; pulse barely perceptible, no bleeding since noon; surface cold. He continued to linger until 12, P. M., when he breathed his last.

Examination ten hours, post mortem. An incision eight or nine inches in length was made, extending from the centre of the clavicle, over the top of the tumor, to some distance down the inner part of the arm; the integuments were freely dissected and turned back, the pect. major cut and drawn out of the way. This muscle was attenuated, perhaps by distension and absorption; the blood had been forced through its fibres like through a seive, and in some places incorporated with its substance. The same was the case with the pect. minor. On raising both these muscles, an immense mass of coagulated blood, which appeared partially organized, was disclosed beneath, and contained in an imperfectly formed sac. The sac being washed out and cleaned, brought the parts more fairly into view. The artery was found completely divided, and the ends retracted to the distance of half an inch. Not the slightest adhesion had taken place, the mouths being as patulous as if just cut; veins and nerves perfect, and in position. To expose the parts above the clavicle, an incision was made along the course of the mastoid muscle; commencing about half way between the mastoid process and the sternal extremity of the clavicle, and met by a transverse cut along the whole length of that bone. The fascia, platys. myoides, stern. mastoideus, were divided, and the subjacent parts freely exposed. The artery had ulcerated where the ligature had been applied, presenting a scollopped, uneven edge at both orifices. No trace of adhesive inflammation in it could be detected. The inner coat of the artery had a pale, bleached appearance. A small coagulum of blood rolled out of the orifice nearest the heart, when the finger was pressed upon it. Granulations were found at the bottom of the wound, and had completely filled it, excepting where the ligature was. The surrounding tissues were consolidated by adhesive inflammation, and rendered the dissection tedious and difficult.

The remarkable fact in this case of the perfect want of adhesive inflammation at both points where the artery had been divided, can only be accounted for, on the supposition of some mysterious constitutional influence. Six weeks had elapsed from the reception of the wound. Kane was a large, muscular, healthy man, and in good condition for a surgical operation. The artery was fairly tied with a moderate sized ligature, and with but little disturbance of its natural connexions. Every symptom, subsequent to the operation, appeared favorable to its ultimate success. It is true, that the system had betrayed a certain degree of nervous irritation from the first, distinct from the violent neuralgic pains, and in a greater de-

gree after the operation, but it did not impede the necessary adhesive inflammation in the surrounding parts. The fact of the artery being tied near where the subscapular is given off, is not sufficient to account for the total absence of an effort of nature to unite its sides; inasmuch as it has been satisfactorily proven, that an artery, although tied immediately at the point where a branch is given off, will unite at the compressed part, so as to be secure against all danger. We are therefore constrained to admit that some secret action beyond the reach of medicine or art, exercised a positive influence over the animal economy, inimical to the progress of a healthy cure in all the structures alike.

January, 1841.

Compression of the Aorta as a means of arresting Uterine Hemorrhage.—Dr. Piedagnel communicated to the *Societe Medicale d'Emulation*, on the 4th of April, 1840, two cases in which uterine hemorrhage, following labour, was immediately arrested by compression of the aorta. These cases were referred to MM. Velpeau and Brierre de Boisment, who made a report in relation to them on the 6th of May. This last paper contains so admirable a summary of the history of this therapeutic measure, that we are sure we shall gratify and instruct our readers by transferring the principal part of it to our pages.

"The idea of compressing the aorta to arrest uterine hemorrhage, must naturally have suggested itself as soon as the laws of anastomsis became well known, and accoucheurs saw the splendid conquests of modern surgical art in the vast field of aneurisms. But before investigating the origin of hemorrhages and discussing the value of compression, it is not without utility, in a few words, to trace the history of this new mode of cure. When MM. Trehan and Baudeloque (nephew) published their memoirs,* compression had not been practised

*Trehan, p. 1. Nouveau traitement des hemorrhagies uterines qui suivent l'accouchement par la compression de l'aorte.—Paris, 1829; in 8vo., p. 29. Baudeloque neveu, Traitement des pertes de sang qui peuvent suivre l'accouchement, par la compression do l'aorte exercee sur le ventre, la pression convenable du ventre et l'usage du seigle ergote et des fortifians.—*Journ. des Conn. Med. Ch.*, 1834, t. i., p. 201.

at all in France, but the moment that attention had been called to this subject, the ancients were searched, and foreign journals were hunted through, and soon, according to invariable custom, it was found that many authors before MM. Trehan and Baudeloque had spoken of this hemostatic remedy. This time we cannot go back to Hippocrates, and the honors of this priority fall to Daniel Louis Budiger, an accoucheur of Tubingen. In order to ascertain the real truth of these assertions, we have consulted the works referred to; and here is the result of these researches: Budiger employed compression of the aorta for the first time in a female who had just laid in and was at the point of death from loss of blood. The flooding lessened immediately; the uterus contracted; the mother was revived and saved. Budiger adds that he has had recourse to this remedy in a score of cases.

"Ploucquet published the new operation, the description of which had appeared in the Journal of Loder in 1797. He says positively that compression of the aorta had been made *per manum in utero udhuc expanso.**

"Compression of the aorta to arrest uterine hemorrhages had been proposed, or at least employed nearly at the same epoch, by the celebrated Danish accoucheur, Math. Saxtorph. He compressed this vessel by acting on the womb through the walls of the abdomen.†

"In 1812 Boer expressed himself thus: 'Inter alia conamina nuper etiam hoc legimus; inductâ manu posterior uteri paries satis opprimitur ut, descendentis retro aortæ, velut suffocatione sanguis irruere in interum per subditos ramos præpediatur. Ecce nova alia procul ægris excogitata instructio! Quam circa candidus afferans quæ duobus periculis sum expertus. Ubi nempè uterus modice crassus et contractus est, compressio arteriæ, etiam si fieri possit, inefficax, ac ne quidem necessaria est. At flaccido et amplo viscere, ut manus robur in arteriam penetret, mors alioqui fores pulsat, ex uteri paresi scilicet, cujus hemorrhagia solum consequentia est, ut, nisi apoplexiam loci sustuleris, ægra occidat, sanguis fluat, necne. Id saltem compertum in præsens ego habeo."‡ This

*Loder's Journal, fur die Chirurgic Geburtshulfe und Gerichtliche Arzneikunde, b. 1, p. 493, 1797; vide t. ii of Ploucquet, Repert. Medicinæ Practicæ Chirurgiæ atque rei Obstetricæ, art. *Hemorrhagia, Compressio aortæ descendentis*, p. 261. Tubingæ, 1808.

†Math. Saxtorph's Gesammelete Schriften Geburtshulflichen, praktischen und physiologischen inhalts. Complete works of Math. Saxtorph, published by P. Scheil, Copenhagen, p. 229.—1803.

‡Boer, Nat. Med. Obstet. lib. sept., p. 525.—Vienna, 1812.

passage from Boer's work conclusively establishes that compression of the aorta was well known in Germany; that accoucheur, however, entertains an unfavorable opinion of this procedure, although it is probable that he objects to the manner of doing it. At the present day compression in the uterus is generally abandoned.

"Dr. Ulsamer, of Wurtzbourg, repeatedly compressed the aorta with success. The cases cited by him in his work are clear and precise.* He used two fingers to arrest the course of the blood. Nearly at the same period Eichelberg, Siebold, MM. Baudeloque, nephew, and Trehan reported cases of cure of uterine flooding by compression of the aorta. The two latter physicians, who were not aware of the labours of the Germans, believed themselves to be the inventors of this operation, and laid claim to the priority in it. Siebold's researches were made in 1828. In the case cited by him the aorta was compressed with the fist.

"We shall not dwell longer on this order of facts; they put it beyond a doubt that the treatment of uterine floodings by compression of the aorta is by no means new, and if honorable physicians have insisted on their having discovered this expedient, it is because, at the epoch of their proclaiming it, the works of the Germans were very little known, owing to the difficulties presented by their language.

"Compression of the aorta is then unquestionably registered in the annals of our science; but has this remedy all the efficacy attributed to it, or are we to believe, with some that it is useless and even hurtful? Two opinions so opposite can only arise from the mode of explaining the orgin of uterine hemorrhage.

"If the blood be furnished by the arteries—and the anatomcal disposition of the vessels, which acquire a prodigious development, favors this opinion—the theory would teach us to compress the main trunk; but if the blood comes from the venous system, as M. Jacquemier assures us it does, compression of the aorta would have none of the utility accorded to it. The last named author, founding his opinion on an examination of the vascular circle of the uterus, and of the manner in which the venous circulation is effected there, ascribes flooding to a want of resistance of the utero-placental veins. Whatever tends to favor the stasis of blood in the uterine veins a little too long, establishes a predisposition to repeated

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* See Friederich et Hesselbach: Beitraege zur Natur und Heilkunde, t i, p. 261.—1825.

losses. The quantity of blood furnished by the utero-placental arteries must be infinitely small.

"Compression of the aorta, continues Dr. Jacquemier, cannot attain the end proposed. By that measure we force the blood to pass more rapidly and abundantly through the division of the aorta above the point compressed; the upper vena cava bringing to the right auricle more blood than usual, the lower vena cava remains in a state of distension. The ovarian and uterine veins destitute of valves, partaking of the overloaded state of the inferior vena cava, it follows that the blood retrogrades into the uterine cavity, as long as the contraction of the uterus does not serve as a valve or check."*

"It cannot be denied that M. Jacquemier's explanation is ingenious; but we must admit that the mechanism of uterine floodings is similar to that of other hemorrhages; if it be so, the capillaries ought to have a large share in the production of these hemorrhages, which take place then by a true exhalation from the internal surface of the uterus. This explanation, favorable to compression of the aorta, is moreover justified by the facts already cited, and by the observations we are about to report.

"But if compression of the aorta be, as M. Velpeau thinks, a resource at once important and easy, it must not be lost sight of, that in thus suspending the afflux of arterial blood, we may equally check the return of venous blood, and that we ought, as much as possible, to avoid, at the same time, compressing the vena cava.

"M. Piedagnel's observations are two in number; the first was the case of a young lady, whose confinement, which had been natural, was followed by a flooding which cold water injections could not arrest. This physician then had recourse to compression of the aorta, seconded by the employment of refrigerants. The patient presented most of the symptoms observed in persons perishing of hemorrhage. As soon as he had put this expedient in operation, the flow ceased, but the convalescence was long.

"Observation second relates to the same lady. Her flooding was immediately combated with compression of the aorta; the blood stopped running, but the womb remained inert; a stream of cold water, directed into the interior of the organ,

*Recherches d'anatomie, de physiologie et de pathologie sur l'uterus humain pendant la gestation, et sur l'apoplexie utero-placentaire, pour servir a l'histoire des hemorrhagies uterines, du part premature et abortif; par M. Jacquemier.—*Arch. Gen. de. Med.*, 1839.

brought on contraction. Napkins placed above and maintained by a body bandage completed the cure. The duration of the flow, in this instance, was from 20 to 25 minutes.

"There is no accoucheur who, in the course of his practice, has not seen women recently delivered losing blood enough to bring on swooning, dimness of sight, and partial fainting, and these symptoms spontaneously disappearing at the moment we are about having recourse to energetic treatment. At other times cold applications and astringent drinks have sufficed to suspend the discharge of blood. In many cases we have availed ourselves most successfully of stimulation of the uterus, whose contractions we have excited by passing the ends of the fingers over the internal surface of the organ, while we compressed the womb with the left hand on the abdomen. Finally, the administration of ergot has very often triumphed over uterine hemorrhages. Perhaps the employment of some one of these means would have sufficed in the second case; but M. Piedagnel, who still had in his mind the grave symptoms of the former hemorrhage, acted prudently in resorting to the remedy which had succeded so well with him the first time.

"The interest attached to this subject engages us to report two other cases, which we owe to the kindness of our honorable confrère, M. Pinel Grandchamp. A lady, after a laborious delivery, in 1834, was taken with a considerable flooding. M. Pinel, time after time, introduced his hand into the vagina and uterus, to extract the clots and excite the internal face and neck of this viscus, expressed into the womb the juice of several lemons, and made free aspersions of cold water, all in vain, the swoons rapidly succeeded one another. In this state of things our colleague thought of compression of the aorta, and practised it for an hour. When he intercepted fully the passage of the blood in the artery, he observed the following phenomena:

"The countenance regained a portion of its natural color; the eyes became more animated, the lips more rosy; the pulse rose again; it was frequent, and had some fulness; the strength of the heart was increased; the patient came out of the state of syncope or prostration, into which a slight compression had almost immediately thrown her. She then said that she felt much better. The blood no longer flowed externally, although the uterus and vagina were freed from clots.

"When he suspended the compression, the blood no longer issued as abundantly, or with the same force, but if it recommenced flowing, all the phenomena of syncope reappeared.

and the pulse almost ceased beating. Only an hour and a half after the operation, the uterus began to recover itself and contract so as no longer to create any fear of inertia. Twelve days afterwards the patient was perfectly restored.* No ergot whatever was administered; it would probably, adds M. Pinel, have aided me in more quickly overcoming the inertia of the uterus.

"In the course of that year M. Pinel Grandchamp was called, in consultation, by Dr. Marye, to a woman who had been losing blood several hours. By touching he recognized the placenta inverted on the neck. Having introduced three fingers behind the symphysis, partly to detach the placenta, he ruptured the bag of waters, and slowly penetrated into the interior of the womb. The head was in the first position at the superior straight; he applied the forceps in this straight, which, on account of the space in which we manœuvre, is easier than generally supposed. The child was withdrawn alive, but half asphyxiated. While our cares were directed to its recovery, the sound of a liquid running on the floor apprized us that the mother was bleeding freely.

"Notwithstanding her delivery the blood continued to flow, and the patient's faintings continually increased; M. Pinel, after having in vain injected cold water, and squeezed several lemons in the cavity of the womb, resorted to compression of the aorta, which momentarily arrested the flooding; but as soon as they ceased applying the fingers the blood reappeared as abundantly as before. At length, an hour having elapsed, it seemed to run somewhat less. A pealed lemon was introduced anew, and the hemorrhage gradually stopped.

"These cases, those reported by the authors, sufficiently attest the utility of compression of the aorta. But this point established, it remains for us to consider the place to be chosen for the operation, the manner in which it is to be performed, and its duration.

"All the modifications proposed can be reduced to three procedures. Some, as Budiger, Eichelberg, carry the hand into the uterus; others, as Saxtorph, reach the aorta by acting on the womb through the walls of the abdomen; finally, the third party, whose method is generally followed now, compress the artery above the womb.

"The introduction of the hand into the uterus, and resting on its posterior region, has been rightly blamed. This plan indeed is bad, and of difficult application; it exposes the tissue of the organ to a kind of attrition; it is moreover imprac-

*Censeur Medical, Avril, 1834, p. 301.

ticable when the womb begins to react. However, it has many times succeeded. Eichelberg cites the case of a woman in whom compression thus effected lasted an hour; the moment it was stopped blood flowed.

"The physical condition of the female just delivered is favorable for compressing the aorta independently of the thinness of the walls, which, by the spreading out of the recti abdominis muscles, are reduced to that of the skin and two aponeurotic and serous membranes, which allow the aorta and vena cava to be almost directly touched; the intestines have, so to speak, chosen an abode in the lateral portions of the abdomen.

"The fundus of the womb also can easily be pushed into the region of the loins, or into the pelvis, whilst in the normal state, besides the thickness, somewhat considerable, of the walls, due to the accumulation of fatty cellular tissue, we are obliged to press on the intestines in order to reach the aorta, which makes the operation more difficult and painful.

"Compression through the abdominal parietes can be exerted with the thumb, with two or with four fingers, as preferred by MM. Baudeloque, Tréhan and Ulsamer. We have seen that Siebold had practised it with the closed hand applied a little to the left of the spine; this plan is more difficult in execution than the two preceding. M. Piedagnel employed the cubital margin of his hand. M. Pinel Grandchamp, advises us to press the artery moderately with the fingers; in bearing forcibly on the vessel the fingers grow numb and the operation cannot be continued long by the same person. This means, it appears to us, ought to be employed in preference to all others. To reach the aorta, the precaution must be taken to turn aside the intestines; the arterial pulsation indicates the presence of the vessel. It is then compressed longitudinally without involving the inferior vena cava in the manœuvre.

"The duration of the compression has been a matter of very diverse opinions. Some have limited it to five, six and seven minutes; others have prolonged it an hour or two. Eichelberg and M. Pinel Grandchamp, did not succeed in arresting the blood in less than an hour. M. Paul Dubois thinks we must continue the operation an hour or two, and then suspend it by degrees, assuring ourselves that the bleeding appears no more. The examples cited by us prove that simple compression suffices to check the hemorrhage, but we believe it better to associate with it the spurred rye, (ergot.)

"However it may be with the combination of these two

means, we are not the less persuaded that compression of the aorta has been and will be of real service; moreover, M. Piedagnel appears to us to have done well in adding his observations to those of Blount,* of MM. Brossart,† Latour,‡ Lowenhardt,§ and Martins.‖—*La Lancette Francaise, May* 12, 1840.

Clinical Lecture on Fissure of the Anus.—By M. Velpeau. The patient who now occupies bed No. — is affected with fissure of the anus, a disease which still requires for its elucidation careful research. Notwithstanding the labors of Boyer, Beclard, Dupuytren, and a few other surgeons, I believe that we have much to learn of the causes, symptoms, and treatment of this painful affection; I shall, therefore, embrace the present opportunity of directing your attention to this subject.

Fissure of the anus consists in the existence of a small narrow ulceration seated in the radiating folds at the margin of the anus, and usually attended with very excruciating pain, whenever the patient goes to stool. Before Boyer's time this disease was almost entirely unknown, and if we examine what has been said concerning it by other writers who preceded him, we shall be convinced that our knowledge of its causes, symptoms, &c., dates within the last twenty-five or thirty years.

Let us first turn our attention to the *causes* of fissure of the anus. This disease may be excited by constipation, piles, the evacuation of hard fæcal matter, in large masses, by mechanical injury, from the end of a lavement apparatus, for example, &c.; but in many cases it is developed without our being able to discover or trace any probable cause. It arises, in most instances, in a very gradual manner, and soon assumes the characters of other ulcerations about the part; hence we find great difficulty in assigning to it its true and efficient cause; nor do I think we could produce the disease by artificial means. It exists in individuals of both sexes, but attacks

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*Ingleby on Uterine Hemorrhagy, p. 249.
†Thesis, Strasbourg, Feb. 1830.
‡Revue Medicale, t. iii., p. 22, 1830.
§Revue Medicale, *id.*
‖*Ibid.*

females more frequently than males; it commonly appears between the ages of twenty-five and sixty, but has been observed at the ages of eighteen or twenty. I have seen it in a young man eighteen years of age, and in a girl of twenty-one; children, however, seem to be exempt from this affection. One of the most remarkable points connected with the history of fissure of the anus, is the great pain and suffering by which it is accompanied; effects which we are unable to reconcile with the slight degree of organic injury constituting the complaint. M. Blandin and M. Harvey de Chegoin think that fissures seated above or below the sphincter ani are of an insignificant nature, and heal of their own accord, or under the most simple treatment; while other fissures are attended by the symptoms described by Boyer. This seems to me to be a speculative distinction, for I have seen several cases of fissure of the anus in which violent pain was a prominent symptom, although the affection did not implicate the sphincter muscle of the anus.

One circumstance, gentlemen, connected with the history of this disease, merits particular attention. The sphincter ani muscle is in a state of permanent constriction. But is this a cause or an effect of the disease? Boyer asserted that this constriction formed a principal exciting cause, since division of the sphincter muscle immediately calms all suffering, without any application having been made to the fissure itself. On the other hand, MM. Roche, Sanson, and Blandin contend that the constriction of the sphincter is a result of the complaint, because the ulceration may frequently exist without our being able to discover it. We cannot, it is true, deny that fissure may sometimes exist without constriction, altho' it be accompanied by the signs of the latter affection, such as violent pain, burning heat, &c., on going to stool. I have witnessed several examples of this; but who can affirm there is no fissure, merely because the surgeon who examines may be unable to find one? The great authority of Boyer is the only cause of our attaching any weight to his assertions, for they have never been confirmed by the result of *post mortem* examinations. Perhaps, however, there may be some means of reconciling opinions on this interesting point in the history of fissure of the anus. Thus, we can understand how a small fissure, being irritated by the passage of stercoraceous matter, may excite spasmodic constriction in the muscular bands underneath it; and again, we can believe that strong spasmodic contraction of the anus, by inducing costiveness, may induce excoriation of the skin about the anus, and thus

become a cause of fissure. Under this point of view, constriction of the sphincter ani and fissure are two distinct affections which are independent, but have a strong tendency to merge one into the other.

The *symptoms* of the disease are the following; the patient first experiences some pain on going to stool, and for some time after an evacuation from the bowels. The pain gradually increases in intensity and period of duration, and when it has arrived at its maximum, the patient suffers the most excruciating torture. The sensation excited by the passage of fæces is compared by the patient to the pain occasioned by a red hot iron, or to the tearing asunder the margin of the anus, and brings on a feeling of faintness or threatening of convulsions. In the intervals between each stool, the patient merely feels some lancinating pain or scalding, with a sense of weight about the part, and colic. As the time for evacuating the bowels approaches, the pain is manifestly increased, is most violent during the moment of expelling the fæces, and then gradually declines for a few hours. It occupies a circumscribed space about the margin of the anus, and is often attended by pulsation of the vessels like that which accompanies phlegmonous inflammation. The bowels now become obstinately constipated, and evacuations take place every eight or ten days, unless purgatives or clysters be employed. The patient feels such a dread of going to stool, that he defers the moment as long as possible, although he knows that such conduct will aggravate his sufferings. One patient at the Hotel Dieu, was heard to exclaim that he would rather die than go to the water-closet, so great was the pain during evacuation of the bowels. Some persons who labour under this disease have recourse to curious methods of avoiding the inconveniences occasioned by the passage of fæcal matter; thus, Boyer mentions the case of a lady who kept a canula constantly fixed in the rectum, to prevent the suffering which she experienced at each evacuation. But fluid stools, or even the passage of air, will occasionally excite very severe pain. Some patients are able to walk about, sit down, or attend to their ordinary business during the intervals between the attacks, but others are compelled to keep their beds in spite of the increased heat and pain thus occasioned. The shooting pains extend towards the bladder or uterus, and in some cases to the hypogastric region. The digestion is impaired; the patient eats little, to avoid the necessity of going to stool; he becomes thin and of a yellow hue; the face is expressive of suffering, and on looking at it, one would say that the patient

labored under some severe organic disease; occasionally the slightest movement will excite the accesses of pain; coughing, spitting, blowing the nose, speaking or singing will aggravate it; any excess in eating or drinking will have a similar effect. The presence of the catamenia, also, increases the sufferings of women. The pain is at once excited by introducing any body into the rectum, as the pipe of a syringe, &c., and when we attempt to pass up the finger, we not only occasion severe agony, but feel that it is powerfully grasped by the constrictor muscle of the anus.

On separating the folds of the anus and drawing the rectum gently down, we perceive, at the bottom of some one fold, a small ulcerated fissure about one or two lines broad, by four, eight, ten, or twelve in length. The edges of the fissure are generally free from hardness; they are of a bright red color, and bear the strongest resemblance to the cracks which so often exist in the hands, feet, or corners of the mouth. A very small quantity of pus may be discharged from the fissure, and in some cases a little blood. It often happens that we find it extremely difficult to discover the fissure, hidden as it is in the folds of the anus, which is usually, in such cases, more or less of a funnel shape; we must carefully unfold the integuments, and desire the patient to make a few expulsive efforts. The fissure is then exposed; it may occupy any point of the margin of the anus, may scarcely reach the edge of the mucous membrane, or may be confined to the parts above the sphincter. In many cases the fissure seems to commence from or terminate in a pile; and usually it extends in a vertical direction upwards. We can often assure ourselves of the existence of this lesion by the mere touch; the instant the finger comes in contact with the fissure, the most violent pain is experienced by the patient, and we feel a hard, wrinkled cord, which indicates the precise situation of the crack. Such, gentlemen, are the ordinary symptoms of fissure of the anus; severe burning pain at the moment of going to stool; narrow, elongated and superficial ulceration at the edge of the anus; and violent contraction of the sphincter muscle.

Progress of the disease.—Fissure of the anus does not present all the symptoms now enumerated, from its commencement; it begins with very slight pain, or itching; tickling feel or creeping sensation, with heat after each stool. These symptoms may continue for six months, or even a year, before they become sufficiently severe to excite much attention. In other cases, the disease will acquire its greatest degree of intensity in a few weeks, or may be very severe from the

commencement. You are not, either, to imagine that the series of symptoms already described will present itself in every case; many patients feel no pain whatever: others (and the patient on whom I am about to operate is of this class) suffer severe and almost constant pain. Our patient has a long fissure, with grayish, irregular, and granulated base, resting on indurated cellular tissue. She suffers much from burning pain whenever she goes to stool; the anus contracts violently, and it is with the utmost difficulty that we can introduce a canula, or even the tip of the little finger. You should therefore remember that Boyer's description of fissure of the anus is merely a general one, and that several varieties may present themselves to us, in which the symptoms described by Boyer do not exist, and to which the treatment recommended by him would be inapplicable.

Treatment.—Some cases of painful fissure may get well of their own accord. I knew a medical student who labored under this disease for seven or eight years, and then recovered without operation or any treatment. A few days ago I saw a patient in town who equally got well without any treatment, after three or four years. However, patients are in general very anxious to adopt some means of relieving their sufferings, and removing the unpleasant disease under which they labor. This may be effected with or without operation. Several ointments have been employed for this purpose. Boyer obtained a cure in one case by throwing into the rectum two or three spoonfuls per day of an injection composed of hog's lard, walnut juice, sorrel juice, and almond oil, of each four ounces; but here the fissure was attended with slight contraction of the sphincter.

M. Descudé informs us that we can cure the disease with large doses of the oleum hyosciami, and topical applications of mercurial ointment. Some surgeons speak highly of *douches* of cold water, of decoctions of chœrophyllum or poppy heads, &c. In a few cases I have succeeded with white precipitate ointment. Dupuytren employed with excellent effect, the following ointment, introduced into the anus by means of a tent: extract of belladonna, two drachms; lard, two ounces; honey, two ounces. More recently some practitioners have spoken in very favorable terms of *monesia*, and one or two cases of cure by this remedy have been cited; but I fear that it will soon meet the fate of most of our new remedies, which flourish for a time and are heard of no more. When the above mentioned means have been tried (and we must often try them to satisfy our patients) without success, we must have

recourse to one of the following, viz., cauterization, dilatation, division of the sphincter muscle, or excision of the fissure. The disease is sometimes cured in the most satisfactory manner by running a stick of nitrate of silver over the whole surface of the fissure. Beclard pretends that he never failed in this way; but other surgeons have not met with the same success; I have tried it myself in many cases without obtaining any benefit, and think that the cases which presented themselves to Beclard, must have been slight, and unaccompanied with contraction of the sphincter muscle; besides, Beclard employed dilatation at the same time. Cauterization can only cure fissure of the anus by modifying the ulcerated surface, and transforming it into a simple wound, which heals like common solutions of continuity. In this way we explain the success obtained by Guy de Chauliac, and Dionis, who cauterized or scarified the ulcers, and by Guerin, &c., who applied the actual cautery, or irritated the surface of the sore with the nail, &c.

Dilatation, by the introduction of tents of lint gradually enlarged, into the rectum, has often been attended with the best effects in the hands of Beclard, Dubois, Marjolin, and others. I have employed this mode of treatment with success in some cases, but it is often tedious and painful. In order to shorten the period of pain and diminish its violence, we should employ the largest tents that we can introduce into the rectum. The pain is at first very severe, but as soon as we get to the fourth or fifth tent it is much mitigated; the tents may be covered with any of the ointments which I have already mentioned to you. However, I should remark that the composition of the ointment does not seem to have any effect whatever. I have tried them all, and afterwards common cerate, and found the latter to answer as well. Dilatation then is the chief element of cure in such cases, and I believe that considerable success would attend its use if we could induce our patients to resist the pain which it, in the first instance, always occasions.

Incision of the sphincter ani was proposed by Boyer and recommended by him as the best, indeed the only mode of treating fissure of the anus; his practice has been followed by most of our surgeons up to the present day. Boyer regards this method as infallible, yet several practitioners mention cases in which it has failed. He was naturally led to advocate this mode of practice, because he believed that contraction of the sphincter ani was the chief cause of fissure.

The preparatory steps of this operation are exactly the

same as those for fistula in ano. The lower intestines are to be emptied by means of a lavement, or some mild purgative, in order to insure quietude for some time after the operation. The instruments employed are a straight, probe-pointed bistoury; a common bistoury; a large tent; a T bandage, and all the minor accessories. The patient is placed on the edge of a bed, with the head low, the under limb extended, the upper one flexed, and the buttocks kept widely apart by assistants. The surgeon now introduces the index finger of his left hand into the rectum, guides along it the flat side of his probe-pointed bistoury, and divides the sphincter. Should the fissure occupy the median line in front, he must not cut upwards, for fear of injuring the urethra or vagina. Boyer thought it sufficient to divide the sphincter at any point, without caring where the fissure may be; but I am of opinion that you will do well to pass the blade of the knife through the fissure at the same time that you divide the muscle. When this has been accomplished, you continue the incision upwards and downwards for an inch or two, so as to cut thro' the whole thickness of the sphincter. A single incision is usually sufficient; but if there be several fissures, or if excessive contraction of the sphincter be present, then we must make a second incision on the opposite side of the anus. When the edges of the fissure are rounded off, hard and thickened, we seize them with a forceps, and remove the hardened portions either with the knife or scissors.

The dressing is very simple. A tent of lint covered with cerate is placed between the lips of the wound, but its upper extremity must reach about an inch beyond the superior angle of the incision. The space between the buttocks is then filled with lint, and the whole supported with a T bandage. The tent must be supplied every day until cicatrization takes place. I have said nothing of the occurrence of hemorrhage, for it is almost impossible that any such accident should happen; but were it to arrive, you must have recourse to the usual means of arresting it, with which you are all familiar.

Such, gentlemen, are the methods of treatment generally employed for the cure of fissure of the anus; cauterization, dilatation, incision. The latter treatment is successful in a vast majority of cases; but as some modern practitioners have insisted on the point, that constriction of the anus is the effect, not the cause of fissure, their opinions have produced some new ideas relative to the treatment of this affection. Upon the principles of these gentlemen, I have practised excision of the fissure instead of dividing the sphincter muscle. This

operation had been highly spoken of by Mothe and Guérin; I had mentioned it myself in 1832, and some of my operations were published in 1836. The following is the method which I adopted. The patient is placed in the same position as for incision of the sphincter; the point of the border of the anus occupied by the fissure is then seized with a hook, and a couple of strokes of the bistoury on the right and left complete the excision of the fissured part. Sometimes I emyloyed the scissors to remove it, but always avoided cutting the muscular tissue underneath. The operation is soon over, and unattended with pain; I have performed it eight or ten times at least, and have almost always succeeded in curing the patient. In one or two failures I was unable to find out whether the want of success depended on my not having cut out all the diseased structure, or on some other cause. I believe that when the complaint is of long standing, we should divide the sphincter, and at the same time remove the ulceration; that is to say, combine incision and excision together. I shall do this in the case we are about to operate on. The disease here has existed for several years; the ulcer is large, with a grayish, lardaceous base; and it is very probable that simple incision of the muscle would fail to effect a cure. You may ask me, perhaps, why I employ excision, and do not remain content with division of the muscle, a mode of treatment which has been sanctioned by experience. My reasons are the following. Division of the sphincter is an easy and quick operation, and attended almost certainly with success; but it compels us to cut through the deeper-seated tissues beyond the muscle. The wound which results always suppurates for some time, and may occasion dangerous accidents. The inflammation and formation of matter may extend to the pelvis and compromise the patient's life. I have seen two cases in which the patients died after a division of the sphincter for fissure of the anus. The operation of excision is entirely free from this danger, because the cellular tissue beyond the sphincter is not touched. The resulting inflammation is very slight, and the wound requires to be dressed for three or four days only. Finally, it is an operation much more simple than division, and one which we should always prefer in recent cases; but when the disease is of long standing, and the contraction of the sphincter violent, we should combine the two operations, so as to ensure success in the most obstinate cases.—*Provincial Med. and Surg. Journal*, April 3, 1841.

Treatment of Rheumatism by Inoculation with Morphia. By Q. Gibbon, M. D.

Salem, N. J., May 19th, 1841.

To Professor Dunglison.

Dear Sir,—A wish to present to the profession what I deem a useful fact, has induced me, though at the risk of intruding upon the time of one with whom I have not had the pleasure of a personal acquaintance, to offer for your consideration the following remarks:—

Having seen in your work upon "New Remedies," published sometime since in the "Library," an article upon the beneficial effects derived from inoculation with morphia in the treatment of local diseases, I determined to make a trial of the plan in local rheumatism, an affection which I have frequently found great difficulty in managing. I was not long afterward called to treat an obstinate rheumatic affection of the knee-joint, which had resisted the usual general and local means. One quarter of a grain of the sulphate of morphia was inserted, by means of punctures, in the skin over the affected part, twice a day for two days, with the most marked and satisfactory results. The patient, who for two weeks previous had suffered extreme pain upon the slightest motion of the limb, was, at the expiration of this period, able to walk with slight inconvenience, and upon the third day, threw aside the crutch with which he had before hobbled across his room. Friction with stramonium ointment, two or three times repeated during the fourth day, removed all remaining disease in the affected part.

The next case was a rheumatism of the wrist, in which no previous treatment had been practised. In this case, which was recent, two applications of the morphia, upon two succeeding days, so effectually removed the pain and tenderness, as to allow of the free use of the hand on the third day.

The third trial was made upon an obstinate rheumatism of the knee-joint, remaining after the subsidence of general rheumatism. The patient, a boy of sixteen, after having been rendered motionless for several days by a severe attack of inflammatory rheumatism of the whole system, recovered under the free use of tart. antim. opium, and colchicum, with the exception of the knee in question, which remained exquisitely painful, and tender upon pressure in one spot of about an inch in diameter upon its inner side. The insertion of a quarter of a grain of morphia, produced in a few hours a decided impression upon the pain, and by the second day,

the symptoms were so far mitigated as to permit free motion in the part. This patient recovered rapidly without any farther medication.

A fourth case, which had resisted acupuncturation, assisted by the free use of the stramonium ointment, yielded upon the fourth day from the first application of the morphia, the patient expressing much satisfaction at the effects of the remedy.

Since treating the above cases, I have had an opportunity of testing the good effects of morphia in several other instances, and with results which induce me to entertain a very favorable opinion of its remedial powers. Judging from the limited experience which I have as yet had of its application, I should think it best adapted to the recent and active grades of the disease. I think it proper, however, to state that I have met with one case of rheumatism in which, though to all appearance a favorable one for its successful ehibition, the morphia failed in producing its beneficial effects.—*American Medical Intelligencer.*

Extraction of a Foreign Body implanted in the Uterus. By M. Maisonneuve, of the Hospital St. Louis.—This patient was thirty years of age on her admission to the hospital, Sept. 14, 1840. At the age of twenty-eight years she was in good health, became pregnant, and in the fifth month of gestation states that she miscarried and suffered from severe metro-peritonitis. She was obliged to enter the hospital La Pitié soon after she had begun to leave her room, where the surgeons diagnosticated metritis with hypertrophy of the anterior surface of the uterus. Various means were persevered in without effect, and when she came under the care of M. Maisonneuve her general powers were enfeebled, digestion bad, hectic at night, and she had dull continued pains in the loins and hypogastrium, which latter region was occupied by an irregular hard tumor, slightly painful on pressure, which filled the pelvis and extended into the iliac fossa. The os uteri permitted the entrance of the finger, but the body and neck of the organ were lost in an irregular, hard, and absolutely immovable mass. Examined by the speculum the vagina appeared to be in the normal state, and the only unusual appearance was abnormal patency of the os uteri, which permitted the

surgeon to see something whitish. He passed a stylet to discover the nature hf this substance, and was astonished to find that he could circumscribe the unknown object by passing the stylet before and behind it. It adhered to the lips of the os uteri on all sides.

Persuaded that this was a foreign body implanted in the walls of the uterus, M. Maisonneuve first endeavored to divide it with scissors, but could not. He then placed one beak of a pair of long polypus forceps behind and the other before it, and by careful traction removed, without causing much pain, a piece of wooden stick, 122 millimeters in length, pointed at one extremity and bent at the other. Looking to her account of the case, it appeared highly probable that this stick had been broken in the uterus during criminal efforts to produce abortion, and this opinion has been since confirmed.

The operation was followed by a return of abdominal and lumber pains, and great febrile reaction, which disappeared in about eight days under general bleeding, baths, and several applications of leeches. But there remained a tumor in the pelvis which probably resulted from chronic adhesions of the uterus, bladder, and rectum, with some of the intestines. However, by the 1st of January, 1841, the tumor had greatly diminished and the general health was much improved.—*Ibid, from Gazette Medicale de Paris. Avril* 3, 1841.

THE WESTERN JOURNAL.

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LOUISVILLE, SEPTEMBER 1, 1841.

PRIZE ESSAY.

It will be seen that the Prize Essay of Professor Yandell is inserted in this number, to the exclusion of our usual Review matter. And some of our esteemed correspondents must take this as an apology for the non-appearance of their communications. We shall present our usual variety in the next number, and will give insertion to some of the communications which have been delayed, though our limits will not admit of the great number that we have recently received.

The following is the report of the committee of the Medical Society of Tennessee, appointed to examine the essays on Bilious Fever.

"The committee, whose duty it was to award the prize to the successful essayist, beg leave to report, that they received four essays on Bilious Fever, for examination, and, after carefully examining them, unanimously award the prize to the writer whose essay bears the fol-

lowing motto: '*Sanos sospitare ægrosque sanare.*' The committee beg leave to deliver the essays over to the Society, with the sealed packet unbroken.

FELIX ROBERTSON.
JOHN H. ATKINSON.
THOS. R. JENNINGS.

NASHVILLE, May 3, 1841.

"The Secretary being ordered to break the seal, it was found that Professor L. P. Yandell was the author of the successful essay.

R. MARTIN, *Rec. Sec'y.*"

MEDICAL SCHOOLS.

The Medical Department of the *University of New York* is at length fully organized, and its circular is before the profession.

Drs. HALL and PROUT of the *St. Louis Medical School* have resigned their professorships; and Dr. W. CARR LANE of that city, and Dr. RICHARD F. BARRETT of Springfield, Illinois, have been appointed their successors.

Dr. JNO. P. HARRISON, late Professor of Materia Medica in the Cincinnati College, has been appointed to the same chair in the *Medical College of Ohio.* D.

MEDICAL INSTITUTE OF LOUISVILLE.

We are happy to be able to announce that the prospects of the Institute, in reference to the approaching session, are, as far as we can discover, unclouded. Letters are constantly reaching the Professors, from distant parts of the West, asking for information; and indicating that although its fourth and last class numbered 203, and was the third in the Union, the Institute is as yet almost unknown in various

parts of the country, whence in future it may expect liberal patronage. The last letters received from our colleague, Prof. Caldwell, announced that he was in good health, and had completed his purchases, embracing some articles of apparatus of the most splendid and useful kind, and valuable books, carefully selected from the bookstores of Paris, London, Dublin and Edinburgh; the whole of which have, indeed, reached the United States. Remaining in Europe long enough to attend the meeting of the British Scientific Association, he will be in Louisville in the month of October.

D.

STRAMONIUM IN NEURALGIC AFFECTIONS.

Prof. Short has put into our hands a letter from Dr. J. W. Richardson of Rutherford county, Tennessee, in which he cites many facts in favor of stramonium, in different neuralgic disorders. He prepares the system of his patient by vomits, purges, venesections and low diet; and then gives half a grain of the extract of stramonium, prepared according to the U. S. Pharmacopœia, every six hours, till dimness of vision is produced. D.

TREATMENT OF MILK-SICKNESS.

Dr. John Evans of Attica, Indiana, has sent us a short account of a method of treating this disease, pursued for some years past by Dr. Wilson of that town, and lately by himself, which he affirms is almost invariably successful. The prescription is as follows:

℞ Pulv. Rhei ʒi.
Magnes. Cal. ʒss.—Mix.

A table spoonful to be given in mucilage every two hours, till purging is produced. If vomited up, a new dose must be immediately administered. D.

SYMPTOMS OF POISONING WITH WHISKEY.

Dr. J. Sweeny of Dripping Spring, Kentucky, was called to a boy 10 years old, who, several hours before, had drunk, at least a pint of whiskey. His prominent symptoms were, deep coma, with the eyelids partly open; the conjunctiva engorged, the pupils dilated and fixed, even in a strong light; inability to swallow; flushed cheeks; a discharge of frothy mucus from the mouth, tinged with blood; and violent convulsions. Death occurred without a subsequent examination of the body being made. D.

UNPUBLISHED CONTRIBUTIONS.

Meteorological Observations. Dr. C. B. Guthrie of Logan, Ohio, has favored us with the monthly results of one year's observations on the thermometer, which we were about to publish, when by taking their average, we discovered that they gave a mean annual temperature of only 47° the lat. being 39° 30'. This being at least 6° below what that latitude should give, we at once perceived something wrong. This was nothing else than the making of the observations, at such hours as not to give the highest temperature of the day. It is very desirable that all observations should be made, by different observers, at the same times, to-wit, early in the morning, and between 2 and 3 o'clock in the afternoon, otherwise their tables are not comparable.

Wound of the head and escape of a portion of brain—recovery. The same gentleman has given us the history of a case, in which, from the kick of a horse against the head of a boy four years old, a portion of the frontal bone, was driven in—the scalp and dura mater lacerated—and a considerable quantity of brain suffered to escape. The fragment of bone was raised and left *in situ*. In a week his little patient was running about the house. Such a recovery does credit to the surgeon in attendance; but the case does not present enough of novelty to call for its publication.

Tracheotomy—extraction of a grain of corn, 21 days after its introduction into the windpipe. Dr. M. G. Kreider has favored us with

the history of such a case. The symptoms were those of laryngitis, and he had no suspicion of a foreign body in the windpipe till three weeks after the accident. He immediately operated, and his little patient was restored. A more extended notice of the case seems unnecessary.

Abdominal Tumour. Dr. Harlon Hard of Waldo, Ohio, has narrated to us the symptoms of a remarkable tumour of this kind, the nature of which is doubtful. Whenever the case may terminate and its history be completed, it will be worthy of publication.

Tic Douloureux. The same gentleman has given us the history of a case of this hopeless malady, in which four operations had been performed on branches of the trifacial nerve, with no more than temporary relief. All the usual medicines had been prescribed in large doses, without effect. We should be happy to publish an account of the cure of his patient.

Imperfect palsy of the limbs of children. From Dr. Robert S. Newton of Gallipolis, Ohio, we have received the notes of a case of this kind, in which the paralysis occurred in the progress of a fever. His patient recovered. He mentions that several other cases of the same kind presented themselves about the same time. We hope to get a detailed account of the whole, and therefore do not publish that which has been sent us. Our readers will be reminded by these cases, of those published in the 2d vol. of the Journal as occurring in Xenia, Ohio.

Colchicum in Tetanus. Dr. Davius Maxon of Gallipolis, has given us a short notice of a case which he regarded as tetanus, not produced by local injury, in which two dram doses of the wine of colchicum appeared to be the chief cause of the recovery of his patient. As the symptoms were not altogether diagnostic of that disease, we consider this notice sufficient.

Fevers of Illinois. We thank Dr. Jethro Hatch of Vermillionville, Illinois, for a letter containing some interesting information relative to the autumnal fevers of that region—not, however, drawn up with the systematic care and fulness necessary for publication *in extenso*, nor susceptible of abridgement.

Sympathetic effects of Uterine diseases. Dr. Allen Kimbal of Fort Henderson, Alabama, has favored us with a brief report of eight cases intended "to show the influence of uterine diseases over the general

health of females in Southern climates." These reports have not the fulness that is desirable; in some of them the uterine affection seems to have been *secondary;* and, in general character, the whole of them are identical or exceedingly similar to cases which constantly occur further North. While, therefore, we thank our correspondent for his extended communication, and hope to hear from him again, we feel restrained from its publication. D.

RESISTANCE OF THE LIVER TO PUTREFACTION.

Dr. Solon Borland of Memphis, Tenn., has communicated to us the following fact: In the spring of the year 1840, Dr. Frayser of that place exhumed the skeleton of an Indian buried in 1836, and found *all* the soft parts decomposed, except the liver, gall-bladder and bile, which were perfectly natural.

WORTHY OF IMITATION.

A young physician writes us as follows: "Early in the morning I study Latin—in the afternoon medical subjects—at night practise composition. When I am sufficiently advanced in the Latin, I wish in the morning to take up another language. Which do you think would be more profitable, Greek or French?" How many young physicians of the West are engaged in the laudable and systematic effort to supply the deficiencies of early education, and at the same time extend their professional knowledge? We fear the number is very small; and still nothing would be found more delightful than the course of this young gentleman. Early in the morning, physicians are not, in general, occupied, nor have they, commonly, much to do after dinner, and after dark. The forenoon and the evening are the chief business periods. If every young physician would devote himself to special studies, at special times of the day and night, he would not only form habits of the most beneficial kind, but, in a few years, would make acquisitions in lit-

erature and science, of which at the beginning he might not entertain the slightest anticipation. By passing the first years of their career (if that indolent existence which has no progression can be called career) without methodized courses of study, they stamp their characters with an indelible inferiority. Nothing is more common than to meet with physicians, in middle or more advanced life, who have made important observations, which, from illiteracy and inexperience in writing, they are unable to communicate to their brethren; or if they attempt it, their communications bring disgrace upon them, if not re-written, or at least corrected by the editor. Alas! for the poor editor. He is obliged to make bricks without straw. Much of what reaches him has to be committed to the flames to be refined—a part flares up, like straw or any other light matter—a part is too soggy to burn. Copying, transposing, abridging, inverting, rotroverting, decomposing and recomposing, are the labors which another class impose upon him. The third and last, *pars minor*, may only require new punctuation. It is quite impossible to express the joyousness of heart, inspired by one of *these* compositions. He feels an emotion of gratitude, from the moment he begins to discover, that bilious is not ll'd—apoplexy, pp'd—and camphor not introduced with a k: that symptoms are not followed by the verb singular, and that the phenomenon, of giving phenomena a plural verb, is actually before his ravished eyes. All such, he prints *verbatim et literatim* if not *punctatim*, and ever afterwards regards their authors, as his friends and benefactors. D.

ORTHOPOEDIC INSTITUTION—PROFESSOR MOTT.

The profession will be glad to learn that Professor Mott of New York, well known as one of the most distinguished surgeons of the age, is about to open an institution for the treatment of club-foot, spinal curvatures, and other analogous distortions of the human frame. It is located at the village of Bloomingdale, on the banks of the Hudson river, six miles from New York, and is to be conducted on the same plan as that now in such successful operation under the direction of M. Julius Guèrin, the distinguished orthopœdic surgeon in Paris, and sev-

eral similar establishments on the continent of Europe. During his residence in the old world, embracing a period of six years, Dr. Mott paid particular attention to this class of deformities, and is therefore in possession, not only of ample experience, but also of the requisite apparatus. Such an institution has been long needed, and we need scarcely add that we wish its distinguished founder every possible success.

G.

MORBID ANATOMY OF MILKSICKNESS.

We have received from Dr. J. V. Wagman of New Castle, Ind., an account of the dissection of a man who died of milksickness. The history of the case is not given, but the Doctor is familiar with the disease, and regarded this case as marked with the pathognomic symptoms. The patient, 30 years old, of regular habits and sanguine temperament, had a vigorous constitution, and enjoyed sound health up to the time of the attack. During the progress of the disease, he took no medicine, till a few hours before his death, when all that he swallowed was immediately ejected; so that whatever morbid appearances existed, might, as the Doctor remarks, be legitimately referred to the disease of which he died. The dissection was made fifteen hours after death.

The body was not much emaciated. The skin had a dusky yellowish hue.

The brain and its membranes exhibited nothing remarkable, except perhaps more than the usual quantity of serum in the ventricles.

The stomach presented a number of patches of light brown and scarlet colors mixed. In some places the mucous membrane was thickened and soft. The pyloric orifice was of a scarlet hue. The mucous membrane of the duodenum presented the same kind of patches with that of the stomach; and some parts were dry. The bowel itself, as well as the lower part of the stomach, was much contracted. The other small intestines were pale; the mucous membrane was softened, many portions of it were dry; the glands of Peyer & Brunner were swollen and soft, and some of them appeared to be ulcerated. The cœcum way dry. The colon contained hardened fæces, on which it

contracted closely; was drier than other portion of the tube; its color was a dark brown, with rose colored patches. The liver was of a dark color and seemed unusually friable under pressure by the fingers; the gall-bladder was much distended with a black pitchy bile. The pancreas was of a rose color and appeared rather soft. The spleen was much enlarged, of a deep brown color, and very soft. The peritoneum had reddish spots, and there was some increased effusion into its cavity. The kidneys, bladder, heart and lungs were sound.

It is proper, to say, that Dr. W. modestly intimates, that his experience in *post mortem* inspections has not been sufficiently extensive, to give him confidence in his own observations. From our knowledge of him, we have no doubt that he has aimed to make an accurate report of the case. We hope his brethren, in regions where the sick-stomach is endemic, will, as often as possible, follow his example, and like him favor us with the results of their examinations.

D.

CLERICAL ENCOURAGEMENT OF QUACKERY.

We can scarcely open a newspaper, without meeting with the advertisement of one or more quack medicines, recommended and avouched by clergymen. Now such is the confidence of the mass of the people in their spiritual pastors, that these certificates have in them a power, even greater than the forged testimonials of eminent, deceased physicians, so often seen appended to the same advertisements. Such being the case, we would respectfully ask our clerical friends, to whom we attribute no bad motive in this matter, whether they have ever reflected on the mischief they do to the community, by these recommendations? Do they not know, that if a nostrum be *inert*, a reliance upon it may destroy life—if *active*, that while it may relieve or even cure a few, it will kill many more? We would charitably believe, that most of these certificates are given, without due reflection. The majority of them are for cough mixtures, balsams, bolusses or lozenges, which are presented as infallible remedies, without reference to the nature of the disease in the lungs, by which the cough is produced. But the diseases of the lungs are of various kinds—re-

quiring different modes of treatment—and what may cure one patient will destroy another. If a clergyman, then, has seen a quack medicine relieve one individual, he is not justified in generalizing, and commending it to all who may, from the coincidence of a single symptom, fancy themselves in the same condition.

Medicine is an inductive science, the basis of which is a knowledge of the structure and functions of the human body. He who builds on this foundation, rests his superstructure on a rock—all others build on sand. How many of our clergyman, understand anatomy and physiology, beyond Dr. Paley's Natural Theology? We suspect, very few. We would ask these respected brethren, what they mean by orthodoxy? Is it not a full acquaintance with the letter and spirit of the Bible, and a faithful adherence to both? Now medicine, so to speak, has *its* orthodoxy, which consists in a profound knowledge of the principles of the science, and a reliance on them to guide us in practice, as the divine relies on the doctrines of the Bible to guide and govern him in preaching. If some ignorant layman, but superficially acquainted with that divine revelation and unimbued with its spirit, were to advertise a new exposition of its doctrines—a sort of patent mode of securing Heaven, what would our clerical friends say, if physicians who had never made the Bible a study, were to certify to the truth and efficacy of such a pretended discovery? They would, undoubtedly warn the people to beware. It would be a dereliction of duty for them to remain silent; and we, on the other hand, feel, that duty in reference to the health and temporal welfare of the community, commands *us* to speak out, in words of warning to the people, and of rebuke to such of their spiritual leaders, as travel out of their profession, to enlist under the banner of quackery in another.

D.

STAMMERING.

Much attention has been directed to this subject, in Europe, during the last few months; and we are glad to see, by a slip from a newspaper, which was handed us a few days since, that Dr. Toland of Columbia, S. C., has recently operated successfully. "The patient," says the editor, "is a boy about seven or eight years of age; and when we

saw and talked with him, on Monday last, only three days after the operation, he was completely cured—every vestige of the impediment to his speech being entirely removed." The operation was "simple, and very little soreness was felt three days after;" but the account does not state, and we have not heard through any other source, what one of the various operations recommended was employed. Dr. T. graduated in the Transylvania University about twelve years ago, and is a man of high respectability and promise in the profession.

MEDICINE IN PARIS.

London, May 29, 1841.

* * * * * "As respects the matters of our own profession, and the men most prominently concerned in them, I shall unite them under the same head, and offer a few remarks on them in that capacity. Of these things, in the two great capitals, London and Paris, which embody the best and the worst of all places on earth, I have not yet seen as much (so deeply have I been engrossed in business) as I purpose to see hereafter—nor have I perhaps seen enough to justify me in speaking positively of them, in all their characteristics and bearings. But I have seen a sufficiency of them, especially in Paris, to authorize me to assert of them unhesitatingly, and in the most unqualified manner, that, like most other things, they (in common parlance) '*loom largest at a distance.*' As you approach and scrutinize them, they sustain, in their magnitude and importance a strong-marked diminution.

"In Paris (I speak of the Hospitals, attended of course by the most eminent men the capital contains) true *disease-curing* and *life-preserving* medicine and surgery are but little known or regarded—most assuredly they are but little *practised.* Into those ancient and vast repositories of disease and misery, whose walls are taught to echo but to sighs and moans, patients are received but to be *ausculted* and otherwise *diagnostically* treated, die and be *post-mortemized,* for the instruction of the *eleves, internes* and *externes,* and the improvement of the profession by furnishing the *material* for writers and printers—and there the process ends. As it has appeared to me, an anxiety to

cure the sick and suffering, entrusted to their care, neither disturbs the repose, nor interferes in any way or degree, with the jollity and enjoyments of the hospital practitioners, whatever may be the departments of the profession in which they labor. If, by post-mortem inspection, the *physician* can prove the accuracy of his diagnosis, his end is attained. And the surgeon is satisfied with a dextrous and showy operation, though the subject of it should die, and be under the dissecting knife of some hawk-eyed *hospital-walker*, in an hour afterwards. Nor are these facts, extraordinary and even *fictitious* as they may appear, either denied by the Faculty of Paris, or complained of by the public. It was distinctly stated to me, by a gentleman, whose information, accuracy and regard for truth I could not question, that he had heard M. V. and other surgeons openly say, when preparing to operate, 'this patient will certainly die, perhaps the *sooner* for the operation; but the profession *may* be benefited by it. We shall therefore proceed.' Accordingly, with finished tact and adroitness, and, with the utmost degree of show of every thing but *feeling*, the instruments are flourished, and the operation performed—and the patient (all at least that remains of him) is promptly removed, that the table may be ready for the reception of another, who is similarly dealt with—and thus—and thus—until the drama of the morning is closed. I say 'of the morning,' and very early in the morning too; for the physicians and surgeons never visit the hospitals at any other time. And, for *surgery*, the custom is attended with no *great* evil—if with *any at all*. But, for the *practice of medicine*, it is fraught with mischief—the morning, as every one knows, being the time when the most characteristic and instructive symptoms of disease are exhibited in the faintest and least *communicative form and degree*. True; auscultation and the other elements of diagnosis and symptom-hunting may be then practised with perhaps sufficient accuracy; and they make nearly the whole subject of the practitioner's regard. I ought to have said, of the *expectant's* regard. For the symptoms and diagnoses being mastered, and announced, the physician considers his duty performed—at least he might as well so consider it; for in the form of actual practice and cure, he does positively nothing. The plan he pursues, with his *three*, *four*, or *five* leeches, applied to the body of an adult, his gum and sugar-water potions, his thimble-full or two of magnesia, his lavements of tepid water, and his other foolery of the like description—such professional trumpery as this, constitutes as literally the

medicine expectante, as even the imposture of Hahnemann and his followers, when they administer their drugs in *millionths* of grain doses! Nor is it by the *medical* attendant alone that this farce is enacted. The course of the *surgeon* is nearly the same. The *operation* being performed, his patient is surrendered to the manipulations of others; while he perhaps never sees him or thinks of him again.

From these considerations, and many other kindred ones, which cannot be embodied in the compass of a letter, I have no hesitation in believing that Parisian practice, both medical and surgical, is more successless than that pursued in any other *cultivated* portion of the globe. And indubitably more so than that in any *uncultivated* one; where, in cases of disease, nature, in her undiminished vigor, and in a course free at once from restraint and obstrucion, is left almost entirely to her own resources, in her efforts to restore health. In verification of these remarks, take the following facts, extracted from innumerable others, which might be cited.

"The Hotel Dieu is at once the oldest, I believe the largest, and certainly the most celebrated hospital in the world. And its attending Faculty rank with the ablest that Europe can boast. Yet, when the *cholera* came down on Paris, in 1830 or 31, of the first 600 patients received into that *great mortuary*, only ONE survived; and of the first 1000 only FIVE!!—a spectacle of mortality never witnessed *before*—nor even *then*, in any other portion of the world.

"For this surpassing degree of mortality in Paris, there no doubt exist other causes, apart from the unskilfulness of physicians and surgeons. Inattention and recklessness do their part in the dismal waste of life. Notwithstanding their urbanity, kindness, keen sensibilities, and vivid sympathies, the French set, in the abstract, a lower estimation on life, and are therefore more regardless of saving it, than any other people I have ever known—and I believe of any that exist. They realize, in its full extent, the great truth, that '*man is born to die;*' and of the time and manner of death, they make but little account. And this sentiment, if I mistake not, makes its way into the practice of medicine and surgery. Hence the struggle of the practitioner to triumph over disease is neither eager nor obstinate. Nor is this all.

"The mass of Parisian hospital patients are of the *lowest orders* of the *low;* whose subsistence and mode of life are inconceivably wretched. Hence the stamina of their systems, originally feeble and defec-

tive, are rendered much more so, by subsequent causes, such as scanty and unwholesome food, a vitiated atmosphere, labor beyond what they can bear with impunity, and, in too many instances, life-wasting dissipation and profligacy. No wonder, therefore, that when under the shattering influence of so many deleterious and powerful agents, they are unable to sustain the shock of disease. I need hardly add, that the causes just cited, which modify so deeply and injuriously the human constitution, must necessarily inflict on it complaints correspondingly modified in form and malignity.

"Under all these circumstances, which are notoriously true, is it not matter of astonishment, that, in the United States, the Parisian schools of medicine and surgery are held in such supreme estimation, as we know is attached to them? Admit, if you please, that French practice *may* cure *French men;* it *kills* Americans, as numberless facts bear positive testimony. The following is one of them:

"A young American, who, as the phrase runs, was walking the French hospitals, was attacked last autumn by *enteritis*, and placde himself under the care of M. V., one of the most celebrated of the Parisian Faculty, both as a teacher and a practitioner. For this disease, which was very violent of its kind, the prescription was *five* leeches to the abdomen, water sweetened with beet-sugar to be taken *ad libitum*, and a *lavement* of cold water to be administered *twice* a day. Meantime another young American, then in Paris, who had practised medicine about a year in South Carolina, visited his sick friend, and, deeming his complaint seriously threatening, entreated him to take immediately an active purgative, composed chiefly of calomel and opium, to have a vein opened, and a large blister applied to the abdomen. In deference to the French physician, the advice was neglected; and in forty-eight hours more, the patient was a corpse!

"Still however, it is regarded as an important feather in the cap of a young physician, in the United States, to have passed some time, and expended his money, in attendance on schools and *amusements* in Paris, and in strolling through Switzerland, and visiting Rome, and other parts of Italy. On this fashionable tour of education, I shall perhaps make known my opinion more fully hereafter. I shall only, at present, therefore, express my conviction, that, in most cases, it is not only *useless*, but *injurious*—and too often productive of absolute ruin."

C. C.

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